# SUPPLEMENT.

# t Itliming Immal. MMERC]

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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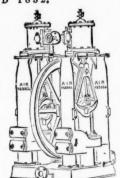
6, 2201.—Vol. XLVII.

LONDON, SATURDAY, OCTOBER 27, 1877.

JOHN CAMERON'S SPECIALITIES ARE ALL SIZES OF

m Pumps, Shipbuilders' Tools. BAR SHEARS. ESTABLISHED 1852.





DEFIELD ROAD IRON WORKS. SALFORD, MANCHESTER.



Represented by Model exhibited by this Firm.

HARVEY AND CO. GINEERS AND GENERAL MERCHANTS,

HAYLE, CORNWALL, LONDON OFFICE,-186, GRESHAM HOUSE, E.C. MANUFACTURERS OF

ING and other LAND ENGINES and MARINE STEAM ENGINES elargest and most approved kinds in use, SUGAR MACHINERY, WOOK, MINING MACHINERY, AND MACHINERY IN GE-LL BHIPBUILDERS IN WOOD AND IRON.

MANUFACTURERS OF STAMPS.

CONDHAND MINING MACHINERY FOR SALE, IN GOOD CONDITION, AT MODERATE PRICES-viz.,

THE INGINES; WINDING ENGINES; STAMPING ENGINES; HAN ORPTANS; ORE CRUSHERS; BOILERS and PITWORK of the state and descriptions; and all kinds of MATERIALB required for UNG PURPOSES.

## LYON & DAVISON,

ONFOUNDERS, ENGINEERS, &c., ydon Bridge, near NEWCASTLE-ON-TYNE,

Manufacturers of MELTING, REDUCING, AND REFINING FURNACES, SLAG HEARTHS, AND SMELTERS' WORK GEAR. stes furnished for improved Lead or Copper Mining and Smelting Plant.

## LAWRENCE ROPE WORKS

NEWCASTLE-ON-TYNE. Established 1782.

HOMAS AND WILLIAM SMITH, mofall kinds of Iron; Steel, Copper, and Galvanised Wire Ropes; Lailla Ropes, &c.; Round and Flat Shaft Ropes; Crab Ropes; Guide dia Ropes; and Galvanised Signal Stranding Rigging &c. Fatent Hemp and Manilla Hawsers, Warps, Cordage, Spun-yarn, Blad Yarn for Telegraph Cables, and Flat Hemp Ropes for Driving Prough Ropes; Fencing Wire and Stand Lightning Conductors, &c.

N STREET, NEWCASTLE ON-TYNE; DOCK YARD, NORTH SHIELDS; 17, PHILPOT LANE, LONDON, E.C. Morth Shields, Blackwall, Newcastle, and Tyne Dock.

### NDARD LUBRICATING OILS COMPANY, LIMITED.

I am PALE OILS for MACHINERY, RAILWAY, and MINING

AGENTS WANTED. %, CANNON STREET, LONDON, E.C.

## ALEX. CHAPLIN AND CO.,

18TONHILL ENGINE WORKS, GLASGOW. PATERTEES AND SOLE MANUFACTURESS OF CHAPLINS' PATENT STEAM CRANES, HOISTS,

COMOTIVES, AND OTHER ENGINES AND BOILERS.

LONDON HOUSE:-

McKENDRICK, BALL, AND CO., QUEEN VICTORIA STREET, LONDON, E.C.







PARIS, ORDER OF THE CROWN OF PRUSSIA. FALMOUTH,
BRONZE MEDAL, 1867. SLIVEE MEDAL, 1867

A DIPLOMA-HIGHEST OF ALL AWARDS-given by the Geographical Congress, Paris, 1875-M. Favre, Contractor, having exhibited the McKean Drill alone as the Model Boring Machine for the St. GOTHARD TUNNEL.

SILVER MEDAL of the Highland and West of Scotland Agricultural Society, 1875—HIGHEST AWARD.

At the south end of the St. Gothard Tunnel, where

Are exclusively used, the advance made during eight consecutive weeks, ending February 7, was 24-90, 27-60, 24-80, 26-10, 28-30, 27-10, 28-40, 28-70 metres. Total advance of south heading during January was 121.30 metres, or 133 yards.

In a series of comparative trials made at the St. Gothard Tunnel, the McKean Rock Drill continued to work until the pressure was reduced to one-half atmosphere (7½ lbs.), showing almost the entire motive force to be available for the blow against the rock—a result of itself indicating many advantages.

The GREAT WESTERN RAILWAY has adopted these Machines for the SEVERN TUNNEL; the LONDON AND NORTH-WESTERN RAILWAY for the FESTINIOG TUN-NEL: and the BRITISH GOVERNMENT for several Public Works. A considerable number of Mining Companies are now using them. Shafts and Galleries are driven at from three to six times the speed of hand labour, according to the size and number of machines employed, and with important saving in cost. The ratio of advantage over hand labour is greatest where the rock is hardest.

These Machines possess many advantages, which give them a value unapproached by any other system of Boring Machine.

THE MCKEAN ROCK DRILL IS ATTAINING GENERAL USE THROUGHOUT THE WORLD FOR MINING, TUN-NELLING, QUARRYING, AND SUB-MARINE BORING.

The McKEAN ROCK DRILLS are the most powerful—the most portable—the most durable—the most compact—of the best mechanical device. They contain the fewest parts-have no weak parts-act without shock upon any of the operating parts-work with a lower pressure than any other Rock Drill-may be worked at a higher pressure than any other may be run with safety to FIFTEEN HUNDRED STROKES PER MINUTE—do not require a mechanic to work them—are the smallest, shortest, and lightest of all machines—will give the longest feed without change of tool-work with long or short stroke at pleasure of operator.

The same Machine may be used for sinking, drifting, or open work. Their working parts are best protected against grit and accidents. The various methods of mounting them are the most efficient.

N.B.—Correspondents should state particulars as to character of work in hand in writing us for information, on receipt of which a special definite answer, with reference to our full illustrated catalogue, will be sent.

PORTABLE BOILERS, AIR COMPRESSORS, BORING STEEL, IRON, AND FLEXIBLE TUBING.

The McKean Drill may be seen in operation daily in London.

#### McKEAN AND CO.

ENGINEERS.

OFFICES,

5, RUE SCRIBE, PARIS.

MANUFACTURED FOR MCKEAN AND CO. BY MRSSRS. P. AND W MACLELLAN, "CLUTHA IRONWORKS," GLASGOW.

## The Warsop Rock Drill

Requires only 20 lbs. steam or air-pressure.

Has only two moving parts—thus ensuring freedom from de-rangement, and is absolutely self-feeding.

Is excessively light, and can be carried by one man, who can with the No. 1 size (weighing only 35 lbs.) drill 40 holes \(\frac{1}{2}\) in diameter and \(\frac{1}{2}\) in deep per minute, in the hardest Aberdeen granite for splitting purposes.

### WARSOP AND HILL.

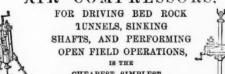
HYDRAULIC AND GENERAL ENGINEERS.

NOTTINGHAM.

STEAM and HYDRAULIC WINDING and PUMPING ENGINES of all kinds.

### DUNN'S ROCK DRILL,

AIR COMPRESSORS.



CHEAPEST, SIMPLEST. STRONGEST, & MOST EFFECTIVE -DRILL IN THE WORLD.

#### Dunn's Patent Rock Drill Company (LIMITED).

OFFICE,-193, GOSWELL ROAD

LONDON, E.C.

THE PATENT SELF-ACTING MINERAL

DRESSING MACHINE COMPANY (LIMITED).

T. CURRIE GREGORY, C.E., F.G.S.

OFFICES,-GLASGOW: 4, WEST REGENT STREET. LONDON: 52, QUEEN VICTORIA STREET, E.C.

IMPORTANT NOTICE TO MINE PROPRIETORS.

MR. GEORGE GREEN, ENGINEER, ABERYSTWITI'. SUPPLIES MACHINES under the above Company's Patents for DRESSING all METALLIC ORES. Dressing-floors having these Machines pos ess the following advantages:—
1.—THEY ARE CHEAPER THAN ANY OTHER KIND IN FIRST OUTLAY.

2.—ONLY ABOUT ONE-FOURTH OF THE SPACE USUALLY OCCUPIED BY DRESSING-FLOORS IS REQUIRED.

8.-FROM 60 TO 70 PER CENT. OF THE LABOUR IN DRESSING, AND FROM 5 TO 10 PER CENT. OF ORE OTHERWISE LOST, IS SAVED 4.—THEY ARE THE ONLY MACHINES THAT MAKE THE ORE CLUAN FOR MARKET AT ONE OPERATION.

They have been supplied to some of the principal mines in the United Kingdom and abroad—viz.,

and abroad—viz.,

The Greenside Mines, Patterdale, Cumberiand; London Lead Company's Mines
Darlington, Colberry. Nanthead, and Bollyhope; the Stonecroft and Greyside
Mines, Hexham, Northumberland; Warlockhead Mines, Abington, Scotland (the
Duke of Buccleuch's); Bewick Partners, Haydon Bridge; the Gid Darren, Esgairmwyn, and Ystumtuen Mines, in Cardiganshire; Mr. Beaumont's W.B. Mines,
Darlington; also Mr. Sewell, for Argentiferous Copper Mines, Peru; the Brutsberg Copper Mines, Norway, and Mines in Italy, Germany, United States of
America, and Australia, from all of whom certificates of the complete efficiency of
the system can be had.

WASTE HEAPS, consisting of refuse chats and skimpings of a former washing, containing a mixture of lead, blende, and sulphur.

DRESSED TO A PROFIT.

Mr. BAINBRIDGE, C.E., of the London Company's Mines, Middletons in-Teesdale, by Darlington, writing on the 20th March, 1876, says—"The yearly profit on our Nanthead waste heaps amounted last year to £800, besides the machinery being occupied for some months in dressing ore-stuff from the mines. Of course, if it had been wholly engaged in dressing wastes our returns would have been greater; but it is giving us every satisfaction, and bringing the waste heaps into profitable use, which would otherwise remain dormant."

into profitable use, which would otherwise remain dormant.

Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superior set of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

Mr. Bannbridge, speaking of machinery supplied Colberry Mines, says—"Your machinery saves fully one-half on old wages, and vastly more on the wages we have now to pay. Over and above the saving in cost is the saving in ore, which is a . t much short of 10 per cent."

GREENSIDE MINE COMPANY, Patterdale, near Penrith, say-"The eparation which they make is complete

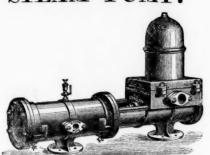
Mr. MONTAGUE BEALE says—"It will separate ore, however close e mechanical mixture, in such a way as no other machines can do."

Mr. C. Dodsworth says—"It is the very best for the purpose and will do for any kind of metallic ores—the very thing so long needed for dressing-floors."

Drawings, specifications, and estimates will be forwarded on application GEORGE GREEN, M.E., ABERYSTWITH SOUTH WALES.

# HAYWARD TYLER &

## "UNIVERSAL" STEAM PUMP.



1872-SILVER MEDAL,

ROYAL CORNWALL POLYTECHNIC.

1873-MEDAL FOR PROGRESS,

VIENNA EXHIBITION.

1874—GOLD MEDAL,

AGRICOLE DE LILLE.

1873-SILVER MEDAL,

MANCHESTER.

1875 -

LEEDS.

1869-The Standard-

"The action is perfectly quiet."

1873-The Engineer-

"It is a fact that, although there is a great variety of Direct-acting Steam Pumps exhibited, none that we have noticed worked so quietly as those of Messrs. Hayward Tyler and Co."

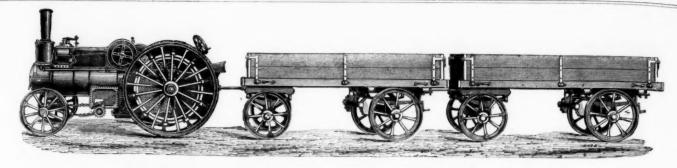
1873-Engineering-

"The 'Universal' (H. Tyler and Co.) Pump can certainly claim to be the simplest machine of its kind in the Exhibition."

1874 — Griffiths' Iron Trade Exchange—

"Nothing in steam power so cheap and effectual as H. Tyler and Co.'s 'Universal' Steam Pump."





#### JOHN FOWLER AND

STEAM PLOUGH WORKS, LEEDS, AND 71, CORNHILL, LONDON, E.C., MAKERS OF ALL KINDS OF

TRACTION ENGINES, ROAD LOCOMOTIVES, TRACTION WAGONS,

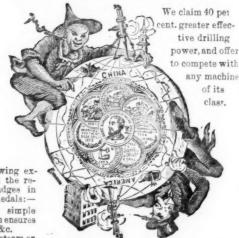
## STEAM PLOUGHING MACHINERY OF EVERY DESCRIPTION.

## "INGERSOLL ROCK DRILL," THE

LE GROS, MAYNE, LEAVER, & CO.,

60, Queen Victoria Street, London, E.C.

5, PARK PLACE, NEW YORK, U.S.A.



The following extracts from the reports of Judges in awarding Medals:—

"2. Its simple construction ensures

construction ensures durability, &c.

"4.—The steam or air cushions at each end of cylinder effectually protect from injury
"5. Its having an automatic feed, giving it a steady motion, &c.
"6. Its greater steadiness and absence of jar and vibration experienced in other drills, which is very destructive to their working

parts, &c.

"7. Its greater power is some FORTY PER CENT. in favour of the

Medals awarded for several years in succession "For the reason that we adjudge it so important in its use and complete in its construction as to supplant every article previously used for accom-

plishing the same purpose."

Estimates given for Air Compressors and all kinds of Mining Machinery. Send for Illustrated Catalogues, Price Lists, Testimonials, &c., as above.

JOHN AND EDWIN WRIGHT.

PATENTEES. (ESTABLISHED 1770.) MANUFACTURERS OF EVERY DESCRIPTION OF

IMPROVED FLAT AND ROUND WIRE ROPE from the very best quality of charcoal iron and steel wire

PATENT FLAT AND ROUND HEMP ROPES. SHIPS' RIGGING, SIGNAL AND FENCING STRAND, LIGHTNING CON DUCTORS, STEAM PLOUGH ROPES (made from Wedster and Horsfall patent steel wire), HEMP, bLAX, ENGINE YARN, COTTON WASTI TABPAULING, OIL SHEETS, BRATTICE CLOTHS, &c.

UNIVERSE WORKS, MILLWALL, PCPLAR, LONDON UNIVERSE WORKS, GARRISON STREET, BIRMINGHAM. CITY OFFICE, No. 5, LEADENHALL STREET, LONDON, E.

## "CHAMPION" ROCK



STANDS UNRIVALLED For Tunnels, Mines, Quarries, Harbour Works, Cuttin Blocks of Granite, &c.

The working parts are made of the toughest steel and phosphor-bronze—steel castings are also used—as to combine strength with light weight.

AIR-COMPRESSING MACHINERY

Combined Water-pressure Engines and Air-compressors

Mechanical and Consulting Engineers, ULLATHORNE & CO., e3. QUEEN VICTORIA STREET, LONDON,

## Archer's New Patent Stone Breakers

Sole Makers: DUNSTON ENGINE WORKS CO., GATESHEAD-UPON-TYNE. ENGLAND.

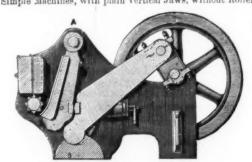
#### STONE BREAKER.

For Road Metal, &c.

Machines with combined Vertical Jaw and CUBING ROLLER.

Guaranteed to break more cubical and to make less small than

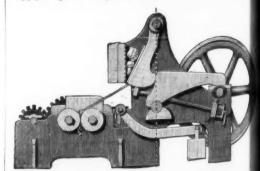
any other Machine Simple Machines, with plain Vertical Jaws, without Roller.



### PULVERISER,

For Crushing and Pulverising Rocks, Ores, Eme Stone, &c., &c.

Apply for prices and particulars to the Manufacturers, as about



ARCHER'S PATENT BONE MILL-Sole Manufacturers.

MANUFACTURERS OF MARINE AND STATIONARY ENGINES; AND COLLIERY MACHINERY, CAGES, TUBS, &c., as every description of MACHINERY USED IN CHEMICAL WORKS.

#### Original Correspondence.

NOTES FROM THE WEST OF ENGLAND.

NOTES FROM THE WEST OF ENGLAND.

Sich as is the West of England in all that is calculated to interest light as is the West of England in all that is calculated to interest side of our eignoses, or the mining and mechanical engineer desirate of our eignoses, or the mining and mechanical engineer desirate of increasing his knowledge as to the various modes of raising of increasing his knowledge as to the various modes of raising of increasing his knowledge as to the various modes of raising of increasing his knowledge, or the state of trade, in a large and important sections of the work of what is being done for the advancement of scientary of the kingdom, is far below what is vouchasted to us from the kingdom, is far below what is vouchasted to us from the kingdom, is far below what is vouchasted to us from the kingdom, is far below what is vouchasted to us from the kingdom, as feld will be passed through of almost unstand before a variety of the work of the kingdom and the wild be passed through of almost unstand before a variety of the work of t ge and handsome pile of buildings, where the work was car-However, the work did not pay, and engine-making has en ahandoned. There are, however, two or three good is in the city, where stove-grates and general castings are el, finding work for a considerable number of men. Some fig used, it appears, is from the furnaces of the Staveley y, near Chesterfield, and is passed direct over the Midland i, which also takes a considerable quantity of coal to the evigent towns from Derbyshire.

which also takes a considerable quantity of coal to the aring towns from Derbyshire.

aring towns from Derbyshire.

and the present time trade generally is in a very destershire has long been noted for its coal, hematite and on; but at the present time trade generally is in a very destate. In Gloucester itself there are a few ironworks doing hy fair trade—one of them, the Atlas, making patent water and pumps, and hydraulic machinery for rivetting, punchinte Forest of Dean, with its peculiar privileges to miners, ater part of which belongs to the Crown, great distress presengst miners and ironworkers, particularly the latter. The the coal field is only about 34 square miles, with 15 seams only eight of which are of a thickness of 2 ft. and upwards, ppears to be only a couple of Mr. Crawshay's furaces in blast, resulting upwards of 60,000 tons of pig-iron, whilst last year there are to furnees in the Forest, of which seven were in blast, and upwards of 60,000 tons of pig-iron, whilst last year there were 10 furnaces in the Forest, of which seven were in blast, eing upwards of 60,000 tons of pig-iron, whilst last year there four furnaces in blast, and the output of pig 28,108 tons. Coal stion has also declined, whilst in almost every other part of ingdom it has increased. In 1872 the quantity of coal raised redileries in the Forest was 730,409 tons, whilst in 1876 it may 663,009 tons. This falling off shows in what state a large ground for the forest must now be in, seeing that which considers by wors of last of the population of the Forest must now be in, seeing that is enabled any part of last real works being entirely closed. It may then be assumed mining districts in which the men are the worst off in the last to be hoped, however, that the Crown Commissioners seems steps to alleviate the existing distress which present an alarming extent at Parkhead and other places. Bellowester and Bristol there are every extensive collisions. are some steps to aneviate the existing distress which prebasch an alarming extent at Parkhead and other places. BeGloucester and Bristol there are several extensive collieries
ther works. Leaving the train at Yate, we get into a locality
tone time was in a more prosperous state than it now is. At
the distance from the station there is every evidence that lead
tone time worked there, and some good specimens of ore have
found. The probability is that lead mining could now be proreultivated in the locality alluded to, for there is little doubt
the mode of working before the place was abandoned was of a
primitive character, otherwise lumps of lead ore would scarcely
ben left at the surface. Rather less than three miles from
station is Frampton Cottrell, where for several years a large
tity of fine brown hematite, containing more than 60 per cent.
tablic iron, was raised. In going down and following the
formerful pumping machinery, and the work has been stopped.
To be hoped, however, that before long operations will be red, seeing that there is a large and valuable plant and accessent fermine the Bristol and Somersetshire coal field, at its
stating that there is a large and valuable plant and accessent is termed the Bristol and Somersetshire coal field, at its
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the station and some season and some season and some season. A saled and
static termed the Bristol the boundary of the coal field sweeps
to the westward, and is lost under the season beyond Nailsean limit extends to Coal Pit Heath (near Yate), Parkfield, and od. South of Bristol the boundary of the coal field sweeps the westward, and is lost under the sea beyond Nailsea at Clevedon, in Somersetshire. The measures extend to so fithe Mendip Hills, where there are several seams of chare faulted and broken up in a singular manner. One ceplaces the coal measures in a vertical position along the base of the Mendip Hills, the axis of which is parallel to et, and ranges east and west. The coal measures have not maked much west of Stratton-on-the-Fosse; but there is son to believe that they are covered over by the lias and red sandstone on the north-west flanks of the Mendips. It and lower coal measures, it may be said, are divided by ant grits, whilst around the Bristol field the carboniferous tain lines, whilst around the Bristol field the carboniferous tain lines to show the chief scenery ant grits, whilst around the Bristol field the carboniferous tain limestone is finely developed, forming the chief scenery lar, the Mendips, the headlands of Portishead, Clevedon, lar, the Mendips, the headlands of Portishead, Clevedon, lar, the Mendips, the headlands of Portishead, Clevedon, and Bream Down, at Weston-super-Mare, and from the Steep and Flat Holmes. At Ashton Vale, by the side ron, a short walk from Bristol, there are extensive works on to the large colliery. Trade, however, is far from good, as colliers are only partially employed. The Bedminster in at South Liberty is now nearly developed, there being to good house coal, which before long will be worked on attensive scale. The blast-furnace belonging to the Ashton pany'is out, owing to the limited demand there has been for metry of the sense of ned out, and at one of them a large tonnage of coal is

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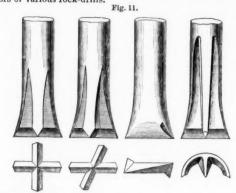
**R** Y

Collieries are also getting along tolerably well in supplying house and gas coal, the men being employed about five days a week. In the Radstock district business is rather quiet, the competition with the Derbyshire coal carried by the Midland being rather keen. The fine Silkstone coal of Derbyshire, bright and free from dross and in cubes, appears to be making its way in the estimation of the public in Bristol and other places, and with the facilities afforded by the Midland and a fair carriage rate, there is little doubt but it will be far more extensively used than it is at present. It is advertised to be sold in Bristol at 20s, per ton; and we also observed that the same coal is finding its way into Bath, Weston-super-Mare, and other places. A comparison between it and the dull and heavy coal delivered from most of the local collieries will preposses the most determined stickler for native produce in favour of it. Lead mining on the Mendips has almost fallen to nil, and there has, consequently, been a marked decrease in the number of persons employed. In conclusion, as the result of our visit to the West of England, we must say that the coal and iron trades are in anything out a healthy state, and that there is great room for improvement, although the indication of such are certainly not particularly promising.

#### ROCK-BORING MACHINERY-No. X.

ROCK-BORING MACHINERY—NO. X.

Tools.—The method of fixing the tool to the end of the pistonrod has received a large amount of attention from inventors. In
1866 Jordan and Darlington introduced a loop-clip. Later a binding ring came into use. Improvements on these methods are in progress, the object being to retain the tool on the axial line of the
piston-rod, without resorting to rings, clips, or set screws. The form
of the boring-bit has also undergone radical changes, in some instances rendered necessary, not for the purpose of drilling a round
hole. but for neutralising the imperfect action of the turning gear
employed. The following figures, which will explain themselves,
show "bits" of various forms, the use of which is advocated by inventors of various rock-drills. ventors of various rock-drills.



Another form of tool for running down centre or "rupturing" holes is shown in Fig. 12.

The bit, Z-shape, is the same size as the ordinary drills; but it has also an enlarged part, armed with a Z-shape cutting edge, 4 in. diameter. The length of the boring tools will depend upon the depth of the intended hole. At Ronchamp the longest hole was 9½ feet. At St. Gothard it is about 8 ft, while at Musconetcong Tunnel, New Jersey, the leading holes were usually 10 ft. deep, the ongest 14 ft.

longest 14 ft.

In ordinary mine headings, and in the employment of comparatively small boring machines, the diameter of the boring steel may vary from  $\frac{1}{8}$  in. to  $1\frac{1}{8}$  in. For rupturing the rock with No. 1 dynamite, or Brain's No. 1 powder, the hole at bottom need not exceed 1 in. in diameter; but if second-class dynamite or compressed powder be employed the hole in that case should be larger. In changing a boring tool care must be taken that the cutting edge of the one to follow it is not wider than the intact cutting edge of the tool withdrawn. In the tool withdrawn it will be often found that the corners have been partly removed; the cutting edge of this tool is, therefore, that portion not rounded, but roughly parallel to the face of the hole. Many instances occurred in the rudimentary stage of boring, when machines were alleged to be useless—the fact having is, therefore, that portion not rounded, but roughly paralist to the face of the hole. Many instances occurred in the rudimentary stage of boring, when machines were alleged to be useless—the fact having been that the cutting edge of the second tool was wider than that of the tool withdrawn, which forced into a conical part of the hole, necessarily wedged itself fast, thereby stopping or retarding the working of the machine. As a common rule, the width of the different sets of boring tools at the points should vary from one-sixteenth to one-eighth of an inch from each other; or if the leading sets of tools are 1½ in. wide at the point, the second or "follower" set may be 1½ in. and the third 1 in. wide. No rule can be strictly laid down for determining the time and power requisite to bore holes of varying diameter; but experience seems to show that if a hole 12 in. deep and 1 in. diameter takes four minutes, a hole 2 in. diameter and of like depth, bored with the same machine, and under the same conditions as to pressure of air and speed, will take 16 minutes. In other words, the machine and fluid pressure being the same, the time and power required to bore holes to a given depth are as the square of the diameter of the hole. It is, therefore, of considerable importance to keep the diameter of the shot-hole as small as possible, and to supplement mechanical power by employing strong rupturing explosives.

Machines Machines Pressure Form of

Tunnel or Mine.	Machines employed.	Machine	in res	ines Pressu erve air pe use, sq. in	er tool em
Mont Cenis	Sommellier's				
St. Gothard	Ferroux's Dubois & Fran McKean	çois. 6			
Musconetcong	Ingersoll's	6		60 70.	X [lar.
Maesteg	Beaumont's	2		50	Semi-circu-
Cwmbran	McKean's	2	1	70-80.	. Flat tool.
Port Skewet	Geach's	2	2	60	X
Saarbrück	Sach's		6	60	Flat tool.
Ronchamp	Dubois & France	cois. 4	1	67	$\mathbf{X} \& \mathbf{Z}$
Blanzy	Darlington	4	no	ne 45	Flat tool.
Minera	Darlington	1-2	no	ne 50	Flat tool.
Ballacorkish	Darlington	1-2	no	ne 45	Flat tool.
CUT AND SI	KIn tunnelli	ngorsin	king st	afts by n	neans of rock

CUT AND SINK.—In tunnelling or sinking shafts by means of rock-boring machinery it is necessary to conduct the operation in some special manner. When machines were first introduced into our mines the miner insisted upon employing them as a mere substitute for the borer and mallet, and boring the holes so as "to take advantage" of the ground. The result showed, however, that such a course was unsatisfactory. Not only was the time required to get a position for the machine, to fix, and to remove it excessive, but the work accomplished was not in proportion to its cost. The anginery dropened out, and at one of them a large tonnage of coal is sell raised, and for the purpose of still further extending operate has been made from the colliery to the Bristol line has been made from the colliery to the Bristol is entered a good deal of coal is sent some distance away. At the Easton Colliery, belong-bill, Leonard, business is rather flat, the colliers working on this by a few parties, is progressing, and it is expected will deep vein at a considerable depth, which will solve the disal at Cossham and Netherhead's Colliery, at Kingswood, trade at least of the Midland Railway. The Parkfield sheing for the use of the Midland Railway. The Parkfield

was driven nitroglycerine and dynamite had not been largely adopted for blasting purposes. Powder was the explosive used in the execution of that work; this, together with the great length of the machines and comparatively narrow width of the heading—9 ft. 10 in.—thereby limiting the angling range of the machines, rendered a considerable number of holes necessary for effecting the removal of the rock. A face of 83½ square feet was perforated with from 60 to 70 holes, 2½ ft. to 4 ft. deep. The Musconetcong Tunnel, New Jersey, was driven with the aid of dynamite. The advance heading, 8 ft. high, was carried the entire width of the tunnel—26 ft. With two boring carriages, and strongly angling the machines on a line from the top to the bottom of the tunnel towards its axial line, holes 10 ft. deep were made for bringing out the centre "cut." The methods of arranging the holes for blasting may be distinguished as distinguished as

distinguished as—

(a).—Mont Cenis and St. Gothard.
(b).—Musconeteong and Minera.
(c).—Brain's radial system.

(a).—The face of the Mont Cenis heading, allowing for contraction towards the top and rounding the corners, represented an area of about 80 square feet. This 'face' was subjected to the attack of 10 machines, giving 8 square feet of surface per machine, or nearly one hole for each square foot of surface.

The centre of the face was perforated with a large hole and immediately outside of this centre eight other holes were bored, constituting the "centre or rupturing holes." Around this set of centre holes a series of three sets of concentric and two sets of semi-concentric holes were drilled. The holes were subsequently fired in volleys, and removed the rock—(1) the centre, and (2) the portion concentric to the centre. See Fig. 16.

(b).—At Musconetcong the tunnel heading, 26 ft. wide, by 8 ft. high, gave a net area of about 175 square feet. This face was perforated with 36 holes by means of six powerful boring machines, each cylinder 5 in. diameter. The area of the face apportioned to each machine was 29 square feet. The number and depth of the holes to obtain a cut of 10 ft., or an actual lineal advance of 9 ft., were:—

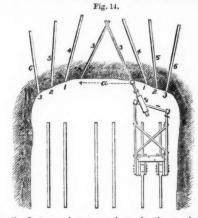
Cut			12	holes,	each	101	ft. deep.
First square up	***		8	39		12	**
Second ditto			8	22		12	9.9
Third ditto	***	***	6	**		12	13
Four roof holes	***	***	2	99	{	10	93
		_	_		(	0	99

Total ... ... 36

The aggregate depth of the 36 holes was 408 lineal feet; number of square feet of heading to one hole about 4.8-10ths. The following is Mr. Drinker's description of driving by the cut system:—
"The method of blasting by cuts is based on the extraordinary force developed by a comparatively small bulk of explosive matter. It consists in first blasting out an entering wedge or core, about 10 ft. deep at the centre, and subsequently squaring up the sides by several rounds. To do this 12 holes are first drilled by six machines, three on a side, the holes placed as shown in Fig. 13, and marked

C3 10 20 Co /0 20

C; A being the floor of the heading. Then 12 holes are drilled, two and two, six on a side, with from 1½ to 2¾ in. "bits." the two sets being started about 9 ft. apart, and at such an angle (see Fig. 17) as to meet or cross at the bottom, the largest bit being put in first. The holes are then charged with about 25 lbs. No. 1 and 50 lbs. No. 2 dynamite, and fired simultaneously by electricity. No. 1 is only used for cuts, inasmuch as in them a quick strong powder compressed in a small bulk at the bottom of the holes is required where the greater resistance will be found, while the No. 2 added serves in filling up the holes, so starting the sides of the cut as the apex moves—the cut, a, being out a second round of holes is



tarted for the first squaring up, as shown by the numbers 1, 1, 1, 1, Figs. 13 and 14,

In these and the subsequent rounds, 2, 2, 2, 2 and 3, 3, 3, the resistance is pretty equally distributed along the whole length of the holes, and as it is not so great as in the cut, No. 2 is used, as in it the notes, and as it is not so great as in the cut, No. 2 is used, as into the introglycerine, being mixed with a larger proportion of absorbent matter the force is thereby distributed over a greater space. In the first and second squaring up rounds from 50 to 60 lbs. of No 2 are charged, and in the third from 80 to 90 lbs., the holes getting stronger as the arch falls at the side. There are generally, also, one or two additional roof-holes in the third round that are not shown in the figure, their position being variable, according to the lay of the role. The top holes in the first round are also designed to bring the rock. The top holes in the first round are also designed to bring down the roof not shaken by the cut, and are, therefore, given a strong angle towards the centre, and always drilled from 12 to 14 ft. deep. The plan, Fig. 14, shows the cut holes, 4, 5, and 6 the squaring up rounds.

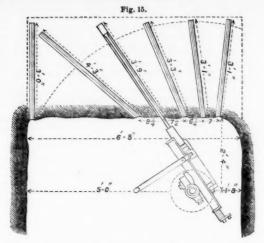
As to the relative depth the holes of the first squaring round are

As to the relative depth the holes of the first squaring round are always drilled a foot or more deeper than the cut-holes, and when blasted they generally bring out a foot additional of shaken rock at the apex of the cut."

(c).—Brain's Radial System.—This system, devised by Mr. W. Blanch Brain, of St. Annal's, Cinderford, was introduced about three years ago at the Drybrook Iron Mines, in the Forest of Dean. The main object of the inventor was to perforate the face of a level without once shifting the stretcher-bar when placed at its proper height. M. André, in his work on Coal Mining, thus notices the radial system:—"The fundamental principle which constitutes its distinctive character is to make the holes of a series to radiate from a fixed point. The object of this radiation is twofold—to utilise the face of the heading as an unsupported side, and to reduce to a minimum the time consumed in changing the position of the minimum the time consumed in changing the position of the stretcher-bar. It will be obvious on reflection that if these ends are attained without incurring a compensating loss the merits of the system are beyond question, since their attainment local constants. the system are beyond question, since their attainment leads to rapidity of progress, which is the main purpose of machine labour. It is evident that if the holes are made to radiate from a fixed point. and the horizontal position be avoided, none of them can be perpendicular to the face of the heading, and, consequently, the lines of fracture from each charge tend to reach this face. A consequence of this fact is that no unkeying of the face is necessary, since each

there to the alther phe immense of the phe immense of the phe increase of the phenomena of

shot tends to blow outwards. Let it be assumed that the drift to be driven is 6 ft. 8 in. in height. The width in this case is immaterial to the operation of the system. The stretcher-bar, which is to serve as a support to the machine, is fixed at a certain height from the floor, and at a certain distance from the face, as shown in



The height of the bar above the floor, with slight modifications to suit existing conditions, will be the same in all cases but the distance of the bar from the face will be determined by the length of the machine, or at least by the distance from the centre of the clamp to the end of the piston-rod, into which the bit is fixed. It is obviously desirable to reduce the distance between the face of the heading and the stretcher-bar to the least possible, since tace of the heading and the stretcher-bar to the least possible, since the angle of the holes will rapidly increase as the distance is diminished. From the figure it will be observed that the stretcherbar is fixed 1 ft. 8 in. from top, 5 ft. from bottom, and 2 ft. 4 in. from the face. The first and second series of holes are 3 ft. 1 in. deep; the third, 3\frac{1}{2}\ft. deep; the fourth, 3\frac{3}{2}\ft.; and the fifth, 4\frac{1}{2}\ft. deep. The bottom or lifting holes are 3 ft. long.

In a heading 6 ft. 8 in. by 6 ft. 8 in., giving an area of 44 square feet, 20 holes were bored, representing a total lineal length of 69 ft. 8 in. As the cut or advance was about 3 ft., it follows that each hole removed nearly 7 cubic feet of rock.

JOHN DARLINGTON.

JOHN DARLINGTON.

#### THE BAROMETER, AND COLLIERY EXPLOSIONS

Sin,—The last month has been very remarkable for rapid and great fluctuations in the barometer readings, as will be seen from the chart herewith forwarded, and which shows that from the afternoon of Oct. 1, on which day the barometer stood at 30 08 in., there was a rapid fall for 24 hours, and a more gradual one for the succeeding 24 hours, until, on the afternoon of Oct. 3, the register was ceeding 24 hours, until, on the atternion of Oct. 3, the register was 2980 in. There was then a regular rise to 3050 in. on the morning of Oct. 6, followed by a fall to 3007 on the morning of Oct. 8. During the succeeding 24 hours there was a slight recovery to 30 21, but during 12 hours on Oct. 9 there was the very rapid fall to 2946 (Wigan), followed by an equally rapid rise in the next 12 hours to 2988, and then a fall in the 12 hours to 2960. From the afternoon of Oct. 10 to the afternoon of Oct. 12 the variation was less than 97 in.; then followed a fall in 12 hours to 2937, succeeded by a rise to 2950 in the seme largely of time. From this point or the afternoon of the firms. 07 in.; then followed a fall in 12 hours to 29 37, succeeded by a rise to 29 50 in the same length of time. From this point on the afternoon of Oct. 13 there was a nearly regular fall to 28 84 on the morning of Oct. 15, followed by a rise in the succeeding 36 hours to 30-00, going up after a slight fall in the succeeding 12 hours to 30-12 in. on the morning of Oct. 18. From that time there was a constant and almost continuous fall to 29-31 on the afternoon of Oct. 22, followed by a rise in the next 12 hours to 29-41, after which there was a regular fall until the morning of Oct. 24, when the position was 29-09 in. The registration here stons.

2909 in. The registration here stops.

These readings are taken at a point 150 ft, above sea level. The month has also, unhappily, been remarkable for explosions of great violence. The explosion near Glasgow has exceeded all former explosions in violence; this is clear from the fact that several men and boys have been severely burned at the top of the shaft. Very violent explosions have occurred in this district, but we are not aware that in any case on record any person was ever burned at the surface. It will be seen from the readings that the late explosions have occurred at or near the bottom of great depressions.

Newcastle, Oct. 24.

VIEWER.

#### COLLIERY ACCIDENTS, AND MR. MACDONALD, M.P.

SIR,—I hope someone will write a rattling return to Mr. Macdonald, M.P., for his speech at Hanley a few days ago. When he speaks of murder, what does he mean? Who can suffer more severely from the loss of a good workman or of a large number of good workmen than the owner of a colliery? Who can be so anxious to protect the lives of his men?

What has Mr. Meddonald ever done on ever suggested to pro-

What has Mr. Macdonald ever done or ever suggested to prevent these dreadful explosions? What have the Government Inspectors ever done, or what can they do except, "lock the door when the steed is stolen?" The Government Regulation Acts have added 1s. 6d. per ton to the cost of raising coal throughout the country, and Mr. Macdonald would further add to this mischief if he could by regregating the men to perform less labour and demand. he could by persuading the men to perform less labour, and demand more wages. The men now begin to see through him. They have learned that his object is his own gain and self-glorification, and that

they are plucked.

In these two last dreadful explosions—one near Wigan and the In these two last dreadful explosions—one near Wigan and the other at the Blantyre Collieries—what more can be said than that they were visitations of Providence? Possibly—nay, probably—the poor fellows who actually caused these accidents were blown to atoms, and how absurd and how cruel it would be to hold their employers responsible for their acts?

ployers responsible for their acts?

Let Mr. Macdonald, Mr. Halliday, Mr. Burt, and all these workmen's friends teach them that the only salvation for the workpeople
of this country is the cheapening of production. Unless production
can be rendered cheap our trade will vanish, and our workpeople
must emigrate or starve. All the Macdonalds in the world cannot
compel masters to work collieries, ironworks, or mines at a loss. A LARGE EMPLOYER OF LABOUR.

#### COLLIERY EXPLOSIONS, AND THEIR PREVENTION.

COLLIERT EATEROSIS.

SIR.—The appalling catastrophe at the Blantyre Coal Pits, which has sent a thrill of horror and sympathy through the country, will doubtless prompt the publication of many suggestions having for their object the prevention or mitigation of future explosions; and I am sure your pages will be always open to any reasonable hints on such important subjects. It may be true that the systematic use of the Davy lamp in all coal mines, the absolute prohibition of blasting operations during the hours when the bulk of the colliers are at work, the stern denial of the tobacco pipe underground at any time, and the isolation by means of wire-gauze of the ventilatany time, and the isolation by means of wire-gauze of the ventilat-ing furnaces, might secure immunity from such fearful disasters as the one we now mourn; but it seems so difficult to obtain obedience miners to this simple formula that, perhaps, something even simpler might succeed.

Those of your readers who have travelled in China will probably recollect hearing of an artless method of obtaining a non-exploding and brilliant light practised in the coal mines of the Upper Yangtsze and Tungting Lake. It is thus described by M. Huc in his Chinese The greater part of these mines contain much of the sair of which I have spoken, and it is impossible to use inflammable air of lamps in them, The miners either group about in the dark or make

a kind of light with resin and sawdust, which burns without flame, and does not go out." Again:—"The miners could not assuredly explain in a satisfactory manner why that combination of sawdust and resin which they make use of for a light will not kindle the gas in the mines and produce an explosion; but assuredly it answers for them the purpose of Davy's celebrated safety-lamp."

Pending the scientific researches into the nature of mine explosions, which are pretty certain to claim the attention of some of our learned savams during the approaching winter, it would be desirable to have a few experiments in illumination made with these very inexpensive products in one or other of the old disused mines.

Overdale, Perthshire, Oct. 24.

#### THE METAL TRADE-FOREIGN COMPETITION.

SIR,—I see every week in the Journal the quotations—"Belgian bars, 5l. 5s.; Welsh bars, 6l." Anyone wanting bars would, therefore, naturally buy Belgian, and I cannot understand how our trade can be expected to revive till we can sell as cheaply as our rivals. It seems to me that not only masters and men, but the railway companies and all concerned, ought to make concessions, and accept lower prices. Shall we ever hear that someone is setting to work in earnest in the matter? 

#### MINING IN SOUTH AUSTRALIA.

SIR.—About a year ago there was a sensation created about what is called the United Mines Company. It seems that the evidence taken by the House of Assembly has not been enough to kill it, but that it is still alive, it being stated that lately 800% had been invested by one party who was "accommodated," in the usual manner, by first by one party who was "accommodated," in the usual manner, by first having applied to one person who was supposed to know a great deal of mining, and likely to have shares—" He could not part with any, but thought he could get some;" and did. It serves the people in the colony right, as they are on the spot, and can make enquiries; but for those in England and elsewhere it may be right to state a few facts about the mines to the north of Adelaide. It is not a question of the railway being made—that was needed, and could not have been contributed the result when the country of the great mineral wealth buried there.

of the railway being made—that was needed, and could not have been got without the cry of the great mineral wealth buried there.

I have been in the North several times at various mines, and so have others whom I will quote. I found, and so did Capt. M. Bryant, that at the lowest rate of cartage, 6d. per ton per mile, it did not pay to raise ore of less than 25 per cent. of copper; in that case the saving in cartage will be very little, as the railway charge is 3d, per ton, and every one of the miners will have to cart it more or less to the station at 1s. a mile, as the teamster's charge double for a short distance. In the case of the Sliding Rock Mine, the farthest away from Port Augusta, the saving will only be 1l. per ton for the whole distance, and I do not think that they would ever raise more than distance, and I do not think that they would ever raise more than 100 tons per month, and the same with the greater numbers of the mines spoken of. About 7000 tons per annum would be a wide margin, making 7000*l* if the profit were the same on all, which it would not. What is that amount if the miners get it, and the smelters none, for the large capital that must be invested to make it pay.

As I do not wish to make this a long letter, but merely to point out facts which hear on the mines in a commercial way. I will contact satisfactory.

out facts which bear on the mines in a commercial way, I will conclude by stating that there is not the resources of smelting at the mines to fall back upon, as at none of the mines I know of can wood be purchased for less than II, per ton, and that will not pay to smelt subhide ores either to rough copper or regulus.

Hindley street, Adelaide, S.A.

A. THOMAS, F.C.S.

[P.S.—Capt Bryant was manager in the North for two out of the three mines that anything like paid their way for a time—Prince Affred and the Wyeka; and I was at the Blinman and Siding Rock over the smelting works, so that our experiences are of a practical

#### THE CENTRAL SWEDISH IRON COMPANY.

Sin.—In the Journal of Oct. 13 there is a letter headed "The Central Swedish Iron Company," and subscribed "A Shareholder." I some time ago had a letter from a friend in England, also a shareholder in the same concern, asking what I knew of it; this caused me to make enquiries here regarding the iron company in question, the result of which I will now give for the benefit of your correspondent. The Central Swedish Iron Company did purchase the two estates

mentioned in their prospectus; they also erected two charcoal furnaces, with Bessemer converter. This, however, is all that they have done towards carrying out what was promised in their prospectus, or the erection of steelworks for the production of rails, from which 80,000% a year, also the erection of plate-mills, from which 52,000% a year profits were to be made. These works have never been begun, so that your correspondent may well exclaim.—Where has the money gone? and to which I feel inclined to reply that as only a very small proportion of the 350,000% has been spent upon works, "A Shareholder" ought to get access to the books of his company, and find out for himself where the money has gone. OBSERVER. Sweden, Oct. 20.

#### THE RICHMOND MINE.

-Since the meeting in August the directors have kept silent Sin,—Since the meeting in August the directors have kept silent as to what is being done, or going to be done, in the matter of the law-uit with the Eureka Company. This not fair to the share-holders, who see the mine daily improving in value, but dare not buy the shares (as many undoubtedly would do to average) for fear the lawsuit should hang over their heads for an indefinite time, and ultimately swallow up no end of hard-woon money in expenses. If the mine is intended for the special benefit of the lawyers why let us at least know it, and we can at once draw our own conclusions. But if, on the other hand, the shareholders should still be entitled to purtake of the enhanced value of the property, let them know to partake of the enhanced value of the property, let them know what value to place upon it. Judging from the reports seen in the Journal from time to time, and the weekly returns sent over, the mine bids fair to become of exceeding great value. If these returns are made with only two furnaces the expenses should be considerably reduced. Two furnaces producing 55,000 gross and The profits from a 40,000 net produce requires no comment. The month's such work should exceed 20,000%. If these returns are conmonth's such work should exceed 20,000. If these returns are continuous shar-holders may rest easy about the lawsuit. The ore is probably taken from the discoveries spoken of by your correspondent from the mine as likely to be good enough to last some months. I trust he will prove a true prophet.

INVESTOR.

#### PEAT FUEL.

SIR.—An article appeared in the Journal a short time since on Mr. John Howar I's process for manufacturing p-at fuel, and in your issue of Saturday last a letter appears from "Hibernian" on extracting moisture from peat, patented by Mr. W. C. Sillar. As regards the former, would Mr. Howard state in the Minnay Journal the method by which he contemplates making such peat fuel as will supersede coal for mining and locomotive purposes? I have been largely engaged in peat manufacture for the past 12 years, and have had the advice of and been aided by the best authorities on peat

series of furnaces, and a powerful exhaust fan applied, but the of heating the air and working the engine was nearly equivalent the whole value of the dried fuel. More, Mr. Sillar's plan will or extract or expel moisture from fibrous or cellular peat. The am up all his draining apparatus. Such is my idea from the description of the base of the peat will only clop is machine and stion "Hibernian" gives, but, if wrong, I shall be glad to be setrig for I have a large interest in peat fuel.

Killaloe, Ireland, Oct. 22.

Thos, Kure Killaloe, Ireland, Oct. 22.

#### BISMUTH BRONZE.

BISMUTH BRONZE.

SIR,—As every additional application of metals must be of so extra advantage to the miners, as bismuth and nickel are bothus are somewhat difficult of sale when the metals are incapable of separation by dressing, the invention of Mr. James Webster, of Edgo ton, for manufacturing bismuth bronze is of particular interest, sit ence in the value of nickeliferous pyrites, and might even admit the economic treatment of ores which are now comparatively work with or without the addition and admixture of other metals alloys as required, for the casting of cannon and other large suits alloys as required, for the casting of cannon and other large and for the production of superior alloys for the manufacture of ticles usually made of metals or alloys of metals. For making and for the production of superior alloys of metals. For making zinc, 6; nickel, 15; copper, 25; and antimony, 50 parts; melts the na suitable pot or crucible, and at the same time thoroughly and gamates them, and then runs the amalgam, alloy, or bismuth bronze of alloys of any convenient or bismuth bronze of them any agamates them, and then runs the amalgam, alloy, or bismuth bronze of them a produced into moulds of any convenient or bismuth bronze of them any agamates them, and then runs the amalgam, alloy, or bismuth bronze or produced into moulds of any convenient or produced into moulds of any convenient convenients. in a suitable pot or crucible, and at the same time thoroughly an gamates them, and then runs the amalgam, alloy, or bismuth brothus produced into moulds of any convenient shape or form future use, as desired. This bismuth brotze is a hard metallically and may be made into reflectors for mirrors, lamps, and the line and into other articles requiring a high degree of hardnessorpoid also for axle and shaft bearings, valves, and for other similar cles or purposes. It may also be ground into broaze powder, as be used for similar purposes to those in which ordinary broughed that hitherto been applied.

It will, perhaps, be said that an alloy of this kind.

powder has hitherto been applied.

It will, perhaps, be said that an alloy of this kind would be costly to come into general use, owing to the high percentage antimony, and I am inclined to think so myself, except for the pose of bronze powders, but he also proposes a softer bisumt browhich would be as cheap as copper, and might be advantaged used for a variety of purposes. The softer kind consists of bism to propose a softer propose of the serveral metals being effected in the same ways the case of the hard alloy. The latter admixture forms a very to metallic alloy, and is cast into ingots at once, to be afterwards melted, and cast or rolled or otherwise dealt with as required. The alloys will be found to resist oxidation and keep their color he metred, and cast of rotate and the state and as required, alloys will be found to resist oxidation and keep their colour than any other similar alloy hitherto made, and can be profiless cost. It will be understood that Mr. Webster does not himself to the precise quantity of each of the metals for co his improved bronzes or alloys, as they admit of variations to the nature of the alloy required; as, for instance, for mak castings for ships' fittings or engine work exposed to the as sea water or to the fumes of acids, he adds for the said soft from one half to one part more of bismuth, taking the sam tity from the zinc, but he claims the mixing of the metal b or its chemical compounds in the manufacture of bronzes orms alloys. To some of the mines in the Tavistock and neighbo districts I should think the invention would be of great rules. St. Cyres, Oct. 24.

#### THE CARON LEAD MINING COMPANY, CARDIGANSH

SIR .- I have read with interest the numerous letters which from week to week in the Journal on Cardiganshire Min Mining, most, however, of which are confined to the prospec developments of the mines on the north extremity of the roducing range; and to judge therefrom, we may assured in the more soft E-gair Hir and E-gair-fraith may with we capital and practical energy acquire greater fame, as the Mines than they ever did, in the palmiest days of Middlet Welsh Potosi Mines, and under circumstances which sh new life into the surrounding mines, so long languishing. attention has been more particularly directed to a notice i week's Mining Journal of the Caron Mining Company (Lin and from the description given it appears to be the Bron Mwyn in Caron; and it is some gratification to me to learn that well taken up and favourably represented by the testimony John Kitto and other practical men of repute. When I first this mine forth to the knowledge of the present generation eight years since, I received a wonderful amount of cauti-eage advice to be careful, and not a little of narrow-mind judice. One engineer exclaimed, "A mine there? Imposs judice. One engineer exclaimed, "A mine there? Imposion hope you are not subject to mental delusions." Another, an informed me very kindly that although there was a little little top it did not hold down, nor even a lode, but if I wan make people believe there was a mine there I should first he turn the whole mine upside down. I rather think, howeve he has changed his belief since. A third told me there was ton of lead in a mile of the lode, and on asking if he had been to be a consistent when the did of the lode of on of lead in a mile of the lode, and on assing it he had end be see he admitted he had not, but added "If there was a we down I would not, as I know it is not there, and if I were it would not believe it." A fourth, grown grey in the service all in repute for his great practical knowledge, said that early matured consideration he had come to the conclusion ould not be a mine there, "Because it was not on the rights in the service."

Notwithstanding all those powerful and wise reasons I Notwithstanding all those powerful and wise reasons I wabled with local aid to open good lead in the shallow working to find an old level intended to cut the lode at a deeper poin unfortunately for its promoters it was made on the princip Bob Jackson's blackbird gun, which was constructed to round a corner, and although this level was put a long way, the corner until nearly half way out again they failed to receive their object. About the time that we had explored this capecimen of pioneer mining I transferred the mine to they vendors, made the old man's crooked level straight by committing the side to the end, and opened the way into the ore grainer than the mine has been very successfully developed, was with much pleasure I noticed the manner in which the head. was with much pleasure I noticed the manner in which have introduced it to the public, for in the first place i promoter's confidence in the worth of the mine, and promoter's confidence in the worth of the mine, and it is place it gives the public an opportunity of going into a boil investment, where the whole of the preliminary work has done, and large quantities of lead laid open, and as the lode is to improve with every foot in depth, where promoters and scribers may reasonably expect to be amply repaid for o and patience.

largely engaged in peat manufacture for the past 12 years, and have had the advice of and been aided by the best authorities on peat manufacture from France, Germany, and Belgium, and have employed the best known machinery, using at the same time a good material, and although I have succeeded in making a peat so dense as to sink in water, and have used it successfully in running the mail train from Limerick to Waterford and back repeatelly, a distance of 77 miles each way. Yet, as a matter of £s. d., I have introduced in any district where coal can be obtained for 20s. or 22s. per ton.

Mr. Howard will confers a great favour on me and others if he shows how this is to be done, and I am prepared to respect his patent rights. As to extracting moisture from peat, a dry warm atmosphere, with loose well-drained spreading ground—the one evaporating, the other absorbing—is a better method of extracting moisture than all the cylinders and pistons that can be put up. I have seen a pressure put on peat to expel the moisture that would crush a cannon ball; the result was a dry fibrous substance, perfectly valueless. I have seen it dried in furnaces especially prepared for the purpose, and more fuel was consumed in driving off the moisture than was dried in the furnace. I have also seen it dried by letting hot air into a point giving off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning off more gas than any other mine I know of furning the lock has a contract the contract of the c

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sultantial of the Van Mine, and, in fact, presents to an unusual extent of the Van Mine, and, in fact, presents to an unusual extent with the Van Mine, and, in fact, presents to an unusual extent of the Van Mine, and the top, or outlet, of an unusual extent of the value and was a season of the despending of the value and the value of the value and the value of the va

#### THE CHINA-CLAY TRADE.

THE CHINA-CLAY TRADE.

53.—I have read the letters of "Tourist" and "Fair Play" which impered in the Journal on this subject, and as I have carefully impered in the Journal on this subject, and as a result of that subject been tolerably successful with the work I have taken in subject been tolerably successful with the work I have taken in subject been tolerably successful with the work I have taken in subject been subject by the subject been subject by the subject b sing investors would do well to make enquiries into the histories in the plendid things that are from time to time offered to the offered to good properties do sometimes come into the solution of course good properties do sometimes come into the solution of course good properties do sometimes come into the solution of the case in dull times like the present, when the general solution of the case in dull times like the present, when the general solution of the case in dull times like the present, when the general solution of the case the country of the case in dull times which when good times come round will say them the whole of their outlay in a very few years. Clay with the works are fairly established almost entirely a commercial underswing appending for success on good management and an adequate solution of the works are fairly established almost entirely a commercial underswing capital, and it is in the want of these two essentials that which is the profits are made by purchase and re-sale. In a claywork the profits are made by purchase and re-sale. In a claywork seed of production—or, in other words, the purchase price—does the working margin for profit in bad times, in good times the life are often very large as prices go up, and every extra shilling the relief are often very large as prices go up, and every extra shilling the capital invested.

J. FLETCHER PAGEN, C.E., F.G.S. J. FLETCHER PAGEN, C.E., F.G.S. the capital invested. S. Austell, Oct. 24.

#### EPITOME OF MINES AND METALS-No. I.

SR.—From the history of metals we can trace the history of insign and labour—metals from the most precious to the basest,
the tracest to the commonest, all play an important part in the
fortations. They are at present supposed to be upwards of 50 in
the the names and dates of their discovery are as follows:—

Date:

Date

er, the names   Metals.	and	date	93 01	tuer	Discovered by Date.
Aluminium					Wohler 1828
					Brandt 1738
Arsenic					Basil Valentine 1490
Antimony .	0.0				Agricola 1530
Bismuth .					Davey 1808
					Davey 1808
Calcium .				• • •	Stromeyer 1817
Cadmium .	0.0				Date of the second
	0.0				
Chromium .					
Columbium				0.0	Hatchett 1801
Cobalt		0 = 0		10.0	Brandt 1733
Copper	0.0				Known to the ancients.
Didymium .	4.4				Mosander 1840
Erbium .				***	Mosander 1840
Glucinium .					Wohler 1828
Gold					Known to the ancients.
					Tennant 1803
					Known to the ancients.
Lauthanium					Mosander 1839
Lead					Known to the ancients.
					Arfwedson 1817
Magnesium					Bussy 1829
					Gahn and Scheele 1774
Manganese			* * *		Known to the ancients.
Mercury					Hielm 1782
Molyhdenu					
Nickel					
Niobium					441 44000
					Tennant 1803
Pelopium					Ross 1845
Palladium					Wollaston 1803
Platinum					Wood 1741
Potassium					Davey 1807
Rhodium					Wollaston 1803
Ruthenium					Kiaus 1844
Silver					Known to the ancients.
Sodium					Davey 1807
CATAL Y			***		Berzelius 1824
Strontium					Davey 1807
m					Known to the ancients.
Thorium					Berzelius 1829
Tellurium					Muller 1782
Terbium					Mosander 1840
Tungaten					D'Elhuiart 1781
Titanium		0.00			
Franciscon					Gregor 1791
Uranium	* * *	* * *			Klaproth 1789
Vanadium	* * *		***		Seft-trom 1830
Yttrium			* * *		Wohler 1828
Zine		* * *	* * *		Paracelsus 1530
Zirconium	100				Berzelius 1824
hactata of the	W. 6	136	[To b	e cont	inued.]

he state of the Metal Market as regards tin and copper is steadily noting, giving fresh stimulus to all mining operations. In Brea Mines: It is said that over 100 tons of tin per month

Meal Jane is reported to be looking better, and to be returning

tin per month.

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scribed.

way in the door a long per here. This lot Glogfach Mine

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the surfa re ground bas from 40 to 50

sel Eliza continues to send 40 tons of tin per month to market, st Police: A man and boy recently got a "sturt" at this mine; toka piece of ground at a high tribute, poor in sight, but it well soon after they commenced working, and they have been funntess to break tinstone in two months sufficient to produce so fine the produce so the state of the sufficient to produce so the sufficient to sufficie adblack tin, which will give them for their share about 180%.

A rich discovery has been made by a pare of tributers. As a
tibuters should be encouraged—not so much tutwork in the ages should be encouraged—not so much tutwork in the is too often the case now. The tributer is the "life of as a rule, he is a good practical miner; he is observing, and careful, whilst the tutwork man cares only for the if fathoms he can drive [I have known rich ore buried in he tutwork]. tutworkers). The tributer takes the greatest care of say, an adventurer, working on sometimes and without earning anything, yet he perseveres, and in the long amonges to do better than the tutwork man. It is a fact that by of the most successful captains were good tributers. Let Wheel Rose: It is rumoured that this famed old mine is to let work at once by a supplementation of the let work at once by a supplementation of the let to work at once by a supplementation of the let to work at once by a supplementation of the let to work at once by a supplementation of the letter of the

to work at once by an influential company.

#### J. H. JAMES. GREAT HOLWAY MINE.

En.—In the interests of intending shareholders in the Great Hollining Company, I beg to call attention to the fact that the to be given to the vendors of the property does not appear in prospectus; and as I know the mine well, and am aware that in all resolutions. In prospectus; and as I know the mine well, and am aware tuated in all probability take a very large capital to work the consistences fully, I consider it only right that the public should have been as the property, since in many instances companies have a pored to have commenced operations with only a small portaging the property. where to have commenced operations with only a small por-file capital mentioned in their prospectuses subscribed, the rapart of which has found its way into the pockets of the saad promoters; and in the face of several important judge-

ments given with reference to disputes under the Limited Liability Acts, where it was laid down that—"Not only should a prospectus state everything with scrupulous accuracy, but that no fact should be omitted, the existence of which might affect the interests of intending shareholders"—I think most of your readers will agree that I am justified in calling attention to this matter, since it can hardly be denied that it is a question of vital importance to intending shareholders whether a large amount of the capital subscribed for concerns in which they purpose investing their money be resid for so. cerns in which they purpose investing their money be paid for ac quiring the same or not. [I enclose my card.] JUSTITIA. Holywell, Oct. 23.

#### MINING IN MONTGOMERYSHIRE.

-Your correspondent "Cymro" finds fault with my remarks she,—four correspondent "Cymro" finds fault with my remarks under the above head as being one-sided, and immediately instances Ystrad Einon Mine, which, unless my local knowledge extending over 30 years is at fault, is not in this country at all, but in Cardiganshire. There is no doubt a very fine plant of dressing machinery there, but where the mineral is to come from to dress remains to be seen. There is no doubt whatever about Hyddgen being a good mine, though unfortunately somewhat difficult of access to, but its western boundary does not adjoin the Cambrian Mines, or, if it does, only for a faw wards, and the Esquirefiable does exticilly described. western boundary does not adjoin the Cambrian Mines, or, if it does, only for a few yards; and the Esgair-fraith lode certainly does not go into that sett. There is no doubt, however, that Hyddgen is a promising mine, and in a district which is destined one day to acquire more notice in a mining sense than it has hitherto attracted. I sincerely trust the perpetrators of the outrage described by your correspondent will be brought to book. In my letter I intended to have used the word "private" enterprise as much as "local" enterprise, as compared with the unfortunate results of company mining. At the same time I must say that mining, as a rule, is more adapted for co-operative working than to be carried on single-handed.

Machynlleth, Oct. 20.

J. D.

#### THE CAMBRIAN MINES, CARDIGANSHIRE.

SIB.—Enterprises and projects—whether they be mining, railway, industrial, trading, mercantile, or commercial undertakings—are each and all comparative problems, and somewhat involved in obscurity and all comparative problems, and somewhat involved in obscurity at starting—hence should, when solved and recognised as successes, be thoroughly acknowledged, and the credit due to skill, perseverance, and merit rendered and awarded. In mining all authorities concede that there is far greater difficulty in defining with unerring certainty where chambers of mineral wealth are to be found in paying quantities "in metallic lodes" than it is to determine those veins which are barren of the properties essential (nay, indispensible) to success. The discovery of a rich deposit of copper or lead ores in any locality is a boon and blessing to society at large; the good effects permeate every circle of the community. The fortunate capitalist is no further benefited than are the hard working, industrious, labouring miner, the machinist, merchant, and shopkeeper; while the volume of trade and commerce is spread and augmented. The mine or mines themselves becoming soon recognised and acknowledged as profitable mediums for the employment of capital, and the greed of the general public stimulated to search the earth for similar prizes in its vast and boundless stores; these from time to time become discovered to refresh and reward the industry

and acknowledged as problable mediums for the employment of capital, and the greed of the general public stimulated to search the earth for similar prizes in its vast and boundless stores; these from time to time become discovered to refresh and reward the industry and enterprise of man. It is thus that labour and capital work hand in hand, and the boundless blessings of Providence are brought to light. The true philosophy of opposition is no less useful than discernible and is indispensable in all the arenas of life. It exists in commerce, manufacture, and trade; the Legislature, the Bar, and no less so in the Church itself; and, without this strife for eminence and position the spirit of progress and the development of intellect would succumb to the enervating laws of inaction. Activity and industry are ever identified with prosperity, and whenever success is attained the fact should never lie "hidden under a bushel." Hence it is with pleasure that we refer to the Cambrian Mines, in Cardiganshire, which promise rapidly to develope themselves into rich, extensive, and profitable copper and lead properties.

Still at this moment the philosophy of opposition is at work, and the greatest desire is evinced to stille the merits and to retard the general recognition of the manifest "to experts and authorities" inherent worth of these mines. This is as it should be, for were the mines of no actual value or importance there would be no cause for the display of "opposition," nor any contention as to who shall possess the shares, or the price at which they may be obtained. We, therefore, in the face of these necessary—nay, most desirable—obstructives, "for they accord with the constitution and necessities of mankind," propose to refer somewhat in detail to the Dolcoath, Buller, Great Alfred, Tresavean, Carn Brea, Cook's Kitchen, and the North Basset Mines; space will not admit of a reference to the great mines of Gwennap, Marazion, St. Blazey, Crinnis, and the Caradons, but in each and all the large deposits of copper o copper ore from 3 to 4 ft. wide, worth 100% per fathom, accompanies the gossan, and ends both east and west are now being opened out on its course—identical in character and composition.

Dolcoath, once famous for the yield of copper, and in its progress over a period of 40 years even more productive than the Devon Great Consols or Wheal Friendship, is a remarkable example of gossan backs above the deposits of mineral in depth; the copper ore was embedded in the clay-slate, as is the case at the Esgair-fraith. The first is now rich for tin, and the workings have attained a depth of over 750 yards, but, though the yield is as prolific as ever, the reduced price of the metal, consequent on the large imports from Australia, leaves little profit to shareholders. This mine has been at work for ages, and the present company is over 70 years old. There is no lack of mineral but costs of production are heavy. at work for ages, and the present company is over 70 years old. There is no lack of mineral, but costs of production are heavy. Only five to six years ago, when the value of black tin ranged from 100 to 120 per cent. above rading quotations, the dividends were close on 50,000% a year, and the market value stood at 400,000% for the entirety. Free trade and the tin discovered in our colonies will prove destructive to tin mining in Cornwall. Trade and manufacture is however, advantaged to a few greater events.

prove destructive to tin mining in Cornwall. Trade and manufacture is, however, advantaged to a far greater extent.

Tresavean Mine is rich in gossans, though abandoned twice as a failure, realising profits close on 400,000\(lambda\), was taken up by the late Captain Thomas Teague, who, with an outlay of about 1000\(lambda\), struck into a fresh deposit of copper ore, and immediately below a highly "crystallised gossan." Under different companies this mine divided 800,000\(lambda\), profit. The last company returned, from 1814 to June, 1845, 307,970 tons of copper ore, realising 1.879,735\(lambda\). The entire capital was 3120\(lambda\), and the dividends up to 1857 were 452,790\(lambda\). The yield from 1848 to the suspension of the works we are unable at the moment to furnish—propably, 1,000,000\(lambda\).

at the moment to furnish—probably, 1,000,000.

Carn Brea, upon an outlay of 15,000l, declared dividends of 298,000l. The deposits of copper ore were invariably found beneath rich "crops of gossan." This mine had on two former occasions been abandoned after making equally large returns and profits. In the early stages of mining it appears to have been the custom to exhaust one deposit of ore and then close up the works. leaving the field. one deposit of ore and then close up the works, leaving the field open for others to search and make fresh discoveries. The mine is

now rich for tin. Cook's Kitchen is only 300 fathoms in length, and rich gossans form the backs of the lodes throughout. The profits were 1000/, per fathom; throughout (say) 300,000/. The copper was very rich, and like the Cambrian Esgair-fraith black and red oxides were suplike the Cambrian Esgair-fraith black and red oxides were supplied to per fathous and control of the same and red oxides were supplied to the black and red oxides were supplied to the same and red oxides were supplied to the per fathous? He then proceeds to draw his conclusions, and copper ores, but the workings of late have not been attended with more than occasional dividends, and those even at wide intervals. North Roskear upon a capital of 1400l. gave dividends of 104,000l. North Basset without making calls gave dividends of 275,000l. This mine was well handled by the manager of the Cambrian. Captain Thomas Glauville, and was extremely rich in gossan. Hence we have great confidence in his judgment, as no man has had more experience in the exploration of gossan lodes than himself. His uncle, the late Capt. Joseph Lyle, was the discoverer of Carn Brea, North

Basset, West Basset, Great South Tolgus, and Relistian-all rich in Basset, West Basset, Great South Tolgus, and Kelistian—all rich in gossans and copper. Capt. Glanville was his right hand man. Great Wheal Alfred was peculiarly rich in gossans, and yielded gains of 300,000l. on a very trifling outlay. Wheal Fortune was equally rich in gossans and copper, and gave immense profits; and, in conclusion, we beg to subjoin a few of the most distinguished copper mines that have come under our personal observation since the year 1835, and so far as our experience extends we do not recollect a single instance of a rich copper lode in the absence of a gossan back.

GOSSAN AND COPPER MINES.

	Capital.	1	Dividends.		Capital.	1	Dividends.
Basset	£ 2,624		£326,913	North Basset	£14,700	1	€ 84,300
Beauchamp	_	***	120,000	North Pool	4,500		61,400
Brewer	1,024	***	10,000	North Roskear	1,400	***	102,000
Buller	1,280	***	350,000	Penstruthal	5,000	***	130,000
Carn Brea	15,000		306,000	Poldice	_		200,000
Clifford	_	***	92,583	Seton	22,166	***	69,201
Condurrow	8,960		20,992	South Frances.	9,396		183,866
Cook's Kitchen	_		300,000	South Tolgus	4,096	***	38,144
Consol group of			1.199,388	Tincroft	54,000	***	299,000
mines	. 5	***		Ting Tang	-	***	50,000
Damsel	_	***	180,000	Tresavean	3,120	***	454,422
Dolcoath	46,187	***	476,856	Treskerby	-		200,000
East Crofty	11,750		78,960	Trethellan	1,860		48,441
East Pool	3,104		97,000	Treviskey	15,000		37,920
Gorland			150,000	Unity	-	***	330,000
Gt. So, Tolgus.	4,350	***	47,550	West Basset	9,000	***	152,400
Jewel	_	***	250,000	West Seton	19,000		163,600
Maud		***	40,000				
		-	AN				

We have to-day (Oct. 25) inspected a box of copper specimens which left the Cambrian Mines on the 23rd, They consist of black

which left the Cambrian Mines on the 23rd. They consist of black and grey oxides and rich sulphurets of copper. The lode has been opened out in the north end of the shaft, and a course of yellow and grey ores laid open 4 ft. wide, worth 100%, per fathom; then comes in 5 ft. of gossan, with three branches of black and grey oxides 2 to 4 in. wide, worth 30% a fathom in addition. The ends both east and west are worth 100% a fathom respectively; hence there is no doubt of the continuance of the ores. About 90 tons of the ores are at surface, and at least 100 tons will soon be ready for market.

The directors being satisfied with the permanent character of the discovery have decided on putting in skip and ladder roads and casing up the shaft, with cutting plates and putting in pent-houses so as to discharge the ores effectively and with economy, and as these latter operations will be on the course of the lode the ores will far more than pay the costs. In a month or six weeks the shaft will be sinking, and the 23 fm. level ends in full operation on a lode worth 100% per fathom at each point. Should these pioneer operations continue equally good the Cambrian will soon prove the richest copper mine in Great Britain.

R. Tredinnick,

Consulting and Advising Mining Engineer.

Exchange, 66, Coleman-street, London, E.C., Oct. 25.

#### THE GOSSAN DEPOSITS AT THE CAMBRIAN MINES.

SIR,—I read in last week's Journal the remarks relative to the unfailing value of great gossan deposits. You will, perhaps, allow me to add other instances which have come under my own observation. When my uncle, the late Mr. Joseph Lyle, took in hand the old Carn Brea Mine, about 40 years ago, he was induced to do so by examining the large gossan deposit, impregnated with carbonate of copper,

similar to that at Esgair-traith Mine.

When very young I was employed at Carn Brea, and was a witness of the immense returns of copper ore in connection with the gossan. Again, at North Basset we had enormous quantities of gossan, which resulted in the production of the richest copper ever found in Cornwall. The immense profit made by this mine when under my management is well known but I may mention as a remarkable fact. nagement is well known, but I may mention as a remarkable fact that two men in this mine in six hours broke 1500t, worth of ore At West Basset we also had great deposits of ore in connection with gossan.—Cambrian Mines, Oct. 24.

THOMAS GLANVILLE,

gossan.—Cambran Mines, Oct. 22.

P.S.—It is stated in last week's Journal, by a correspondent sign ing himself "Old Miner," that the Cambrian Mines are under the joint supervision of Capt. Absalom Francis and myself—this is a mistake; I alone am responsible.

#### SOUTH CONDURROW, AND WHEAL GRENVILLE MINES.

SIR,—A letter having appeared in last week's Journal on the above mine, signed "Peter Provis," which from communications received I find is credited to me, being the only one in the district of the name of Provis, I hereby disclaim any knowledge of the letter or writer. As I am professionally engaged in several of our mines I make it a point to avoid all anonymous newspaper correspondence, and all business communications are signed with my usual signature—

THOMAS B. PROVIS. THOMAS B. PROVIS Camborne, Oct. 25.

#### SOUTH CONDURROW, AND WHEAL GRENVILLE.

SIR,-Although it may be true that the majority of the adven-SIR.—Although it may be true that the majority of the adventurers in the above mines may remain entirely unaffected as regards their judgment of the value of their property by the many amusing letters that appear from time to time in the Journal on the subject, still, for the sake of the minority who may be induced thereby to increase or diminish their holdings, I would call attention to a few of the inaccuracies in which Mr. Peter Provis, of Camborne, bases the advice he good naturedly offers us in his letter dated Oct. 16.

Eightly, as regards the presengent of South Candurage, to which

Firstly, as regards the management of South Condurrow, to which he thinks too much praise is awarded, suffice it to say that the adventurers in that mine are eminently satisfied therewith, and fully

venturers in that mine are eminently satisfied therewith, and fully convinced it is as good as can be.

He then tells us why South Condurrow has been successful, and that the 72 and 82 fm. levels have been very productive, which is so far right enough; but omits all mention of the 60 and 93 fm. levels west, from which so much of our tin has come. He goes on then to tell us that the 93 fm. level as compared with the 72 and 82 is a poor one. Now, I happen to have kept a record of the value of the ends quoted weekly since January, 1875, and here subjoin the average quotation of each end since that time, which I think can hardly be said to bear out this statement:—

1875. 33 8 33 8 34 8 7 7 1 E 7 1 W ... 60 E ... 60 W

pains to dissuade us from anticipating any benefit from sinking; and supposing the lode to centinue as good on the average through the sett as we have already found it, we have certainly more paying ground than will go through our stamps in 50 years. His first statement in regard to Wheal Grenville is that "the best level in Wheal Grenville upon the South Condurrow lode has been the 130," and shortly after that, "that the 140 is not so good as the 130; the 150 not equal to the 140; and the 160—or deepest level—has been inferior to them all." Further on—"But what will fall into the South Condurrow lode at or about the 150 in Wheal Grenville is not a rich branch, but a poor lode that has never produced any mineral during the whole course of sinking upon it and it will surprise me during the whole course of sinking upon it, and it will surprise me if it causes any improvement in the flat lode when it falls into it."

Now, has Mr. Provis forgotten—or did he ever know—that the

160 by the western shaft was valued at 1 ton of tin per fathom, and that it was there in junction with Grenville old lode, with which lode it is also expected to be found in connection with the 150, under the northern shaft. Further, that from this Grenville old lode has come seven eighths of the tin that Grenville has ever returned, and can be show us any quotation of the 130 of a value of 1 ten per fathom? He then proceeds to draw his conclusions, and

and the boundary that we are to drive a cross-cut to prove, does not

of procedure at Grenville is rank and reckless in the extreme, in which I quite agree with him; but what a pity that he gave his rassons. A GNOME.

#### SOUTH CONDURROW MINE.

SIR.—Although I am utterly adverse to replying to anonymous correspondents, yet I must, however, claim your indulgence this once to correct the assertion made by "C. W."—that he wishes to counteract the almost weekly exaggerated and puffing statements made in your columns on this mine. Our reports are generally published in your paper every week, and nothing can be further from my intention than to give exaggerated statements of the produce and prospects of the mine, and I believe these reports generally are borne out by results. "C. W." took upon himself to kindly enlighten (?) the shareholders as to the real state of the mine. I did not agree with some of his remarks which seems to have given him offence. I never pretended to say how rich the undeveloped ground in South Condurrow may be; but there are yet some 200 fms. in length of unexplored ground on the course of the great tin lode east, and fully 300 fms. to go in a westerly direction, whilst the body of the mine is now yielding about 50 tons of tin per month. In the western part of this unexplored ground we have the right to go to the centre of the earth, which would probably take "C. W." himself, even with his rapid mode of sinking, 50 years to reach. Your anonymous correspondents in their wisdom are quite sure the unexplored ground is worthless, and that the flat lode will not hold good in depth. This may be so; but I see no reason why it should not hold good in length and depth. Our 80 end east has greatly improved, and is now worth 40% per fathom. The western ends also are not barren. Judging from analogy the nearly parallel lodes further north as Dolcoath, Tincroft, and others are well known as rich deep mines. The deepest point this great tin lode has yet been seen is at South Wheal Frances, some 200 fms. deep, where it said to be SIR,-Although I am utterly adverse to replying to anonymous norm as Doicoath, Tincroft, and others are well known as rich deep mines. The deepest point this great tin lode has yet been seen is at South Wheal Frances, some 200 fms. deep, where it said to be quite as rich as it is at South Condurrow. I am informed the tinstone at that mine contains even a higher percentage of tin than any other mine on the same lode. It appears, therefore, the lode is not likely to give out in depth.

Your amiable correspondent wishes to criticise the mines from Redruth to Camborne. There is no necessity for this unless he puts

Redruth to Camborne. There is no necessity for this unless he puts his name to his letters. It is not reasonable that one should stand still to be pelted with mud from behind a hedge. He, however, boasts of his having known South Condurrow 20 years ago. My own opinion is that if he knew the mine 20 years before then it would not make much difference. He appears to be one of the class of men Napoleon I. spoke of—who never learned anything nor forgot anything. It wish to confine my remarks as much as possible to the case thing. I wish to confine my remarks as much as possible to the case in point—South Condurrow; but as "C. W." says South Carn Brea came to a standstill owing to the shaft not being sunk more in a month than could easily have been done in a week, I can hardly tell how to convince him that I endeavour to get the mine to do as much work as possible, unless I compare the work done under my control with that of others. It is well known that I took the macontrol with that of others. It is well known that I took the management a short time ago at South Tolcarne. I found my predecessors had eight men in a cross-cut to force it on full speed. The total ground driven in a month by them was 8 ft.9 in. I continued this cross-cut by six men, and with the ground fully as hard as before, extended it 4 ft.6 in. in five days—that is to say, the lesser number of men extended the level more than double as fast as before. I could give "C. W." many such comparisons if he is not satisfied that I do so much as some others at least. I might state it is the western give "C. W." many such comparisons if he is not satisfied that I do as much as some others at least. I might state it is the western shaft in South Tolcarne, not the eastern, that has been abandoned; this shaft was begun by the former managers in a poor piece of ground some 250 fms. to the west, away from South Condurrow boundary. Your other anonymous correspondents, with "C. W.," have been continually singing in the same key for the past three years how "admirably the mine has been laid out with efficient machinery, the shafts sunk, levels extended, with ground so easy and tin so rich, and that all I had to do was to step in and take away the ground laid open." I am compelled most reluctantly to state that South Condurrow has not been the sinecure these people would make it out to be, and in any remarks I may have to make it will not be out of any ill feeling towards the former managers it will not be out of any ill feeling towards the former managers (who might truly say—save us from our friends), but purely to vindicate my own character, and to say that I have not had all pay and no work. In the first place, the discontent originated in the dissatisfaction of the committee of management with the former managers, and I was not instrumental in any degree in causing this change. Much has been said as to the efficient state of the machinery and how well and indiciously it has been placed. The change. Much has been said as to the efficient state of the machinery, and how well and judiciously it has been placed. The engine-shaft is sunk perpendicularly 40 fms. deep below adit. A cross cut at this level has been put out some 40 fms. south to King's shaft, which is sunk below the 93 on a small poor lode dipping slightly north; this shaft is behind, or to the north of, the great tin lode; that has dipped away south from it, and is reached by a 60 fm. cross-cut at the 93 fm. level. Some few years ago the engine on the north shaft, 40 fms. deep, was considered to be inadequate, and a new and larger one was ordered to be made, 7-ft. stroke only, so as to fit the old house, and continue to pull the flat-rods underground through the 40 fm. level, and then pump from below through King's shaft. the 40 fm. level, and then pump from below through King's shaft. These underground rods and bobs are continually giving us a great deal of cost and trouble, owing to the friction and wear of working. Since East Wheal Grenville has ceased to work we have had fully treble the quantity of water to contend with, which has necessitated the putting down of larger pitwork. We have also had to re-plate and strengthen the main rods, and to bind the old engine-house with bars of iron to prevent it from falling to pieces. The extra cost of pumping has been very considerable, and had the new engine been made 9 ft. stroke, and fixed on King's shaft, it would really have inade 9-ft. stroke, and fixed on King's shaft, it would really have been judiciously applied, and saved us considerable expense. With respect to the stamps, the engine drives 5 axles, or 80 heads; these stamps axles were picked up second-hand, and the two weakest were placed nearest the engine, where the strain is greatest, consequently they broke down, and we have had to put up two new axles at a great loss of time and expense. On the dressing-floors I have more than doubled the number of round buddles since I have had control of the mine. We have, therefore, spent considerable sums of money on this most efficient machinery, which have been duly charged and paid for in the current monthly cost of the mine. Since I have had the management of the concern we have charged up two months' extra cost and back bills left by my predecessors, amounting tygether to nearly 4000£; this sum alone is about sufficient to cover gether to nearly 4000%; this sum alone is about sufficient to cover

Your correspondent hints at my ignorance of lodes 20 years this need not be discussed. I hope we shall both be wiser and better men 20 years hence. I ought, however, to have known something about lodes so long ago as that, for having had the misfortune to lose my father at a very early age I was eet to work underground very young. I have spent 40 years out of 52 of working time chiefl underground, and for more than 20 of which I have had the manage ment of mines, and am thankful to say that I am blessed with health so as to be able still to go underground as usual generally six days a week, and whether my management has been able or otherwise l have always honestly endeavoured to do my duty, and I have never wilfully misled anyone by false or exaggerated reports, nor kept wick any accounts, nor credited any one that has not been actually sold. "C. W." should know better than to assert that this is one of sold.

sold. "C. W." should know better than to assert that this is one of those mines you can run through as fast as you can wheel away the stuff (I wish we could). The ground is not so very easy, seeing that the former managers were paying on an average 20L per fathom each for driving the three ends on the tin lode when I took on. A few words on the rich courses of tin said to be discovered in the mine waiting to be taken away, and I have done with your anonymous correspondents. You will allow me to make an extract from the last report on the mine written by the late managers themselves Nov. 3, 1874, where they state that the 93 cross-cut towards selves Nov. 3, 1874, where they state that the 93 cross-cut towards the great tin lode had to be abandoned, as the ground was so hard that 25t, per fathom was paid for driving, and that the men could not earn half wages at that price. Moreover, to work the mine as not earn half wages at that price. they were then doing, and to keep the three ends going on the tin

lode-the 80 west, the 70 west, and the 60 east-would incur a monthly cost of 1800l. (bear in mind this is their own estimate not mine) after they had abandoned the 93 cross-cut south on account of the hardness of the ground. My first step after I took the manor the narraness of the ground. My first step after 1 took the management was to start a cross-cut to reach the lode at the 93, which cost us 50s. per fathom to drive; we soon intersected the lode at the bottom level, and which has opened out well, and has yielded, and is now producing a good deal of tin; those are, doubtless, some of the reserves spoken of which only wanted a cross-cut, to reach. We also took up the 80 end to drive east, which has been a good level, besides putting out cross-cuts to reach the great lode at the 60, the 50 and the 40 and extending on the course of the lode therefrom. besides put they are tross-cuts to reach the great role at the of, the 50, and the 40, and extending on the course of the lode therefrom. These upper levels have produced large quantities of tin, but it has cost us a good deal of money in these extra explorations, but our mine cost has seldom exceeded 1500l. per month, notwithstanding the increased quantity of water we have had to pump. Had the operations been carried out on the same plan as left by my predecessors, and at the same cost, the mine would have been thoroughly expansively more than two years ago and heavy calls would have

cessors, and at the same cost, the mine would have been thoroughly exhausted more than two years ago, and heavy calls would have been made. It is not very complimentary to the former administration for their friends to assert that I am taking away the reserves of ore which they left to remain unworked whilst tin was at 90\(leftarrow\) per ton, and that has since been worked at a profit when the price has fallen to below 40\(leftarrow\) per ton.

I find during the three years preceding my management 1031 tons were sold at an average price of 66\(leftarrow\). 13s. per ton, and no dividends declared, but over 6000\(leftarrow\) called up from the pockets of the shareholders. Estimating the ore at 100 tons that will be sold to the close of the present year, making the three years that I have had charge of the mine, it will be 1600 tons, at an average price of 46\(leftarrow\). 5s. per ton, or 20\(leftarrow\). 8s. per ton less than for the three years previous. If we had the same price for our ore as my predecessors had the shareholders would have received nearly 33.000\(lambdarrow\) dividends extra to what has already been paid. I do not pretend to say that had the shareholders would have received nearly 33,000. dividends extra to what has already been paid. I do not pretend to say that I made the mineral, but I do say I strive to work the mines under my control as economically as I can, and the results at South Condurrow have been brought about not by sitting still with folded hands, and by walking in the same beaten track as others who have gone before me, but by much thought and hard work, and I have every reason to believe the shareholders generally are satisfied with what has been accomplished.

WM. Rich.

#### "C. W.," AND SOUTH CONDURROW.

"C. W.," AND SOUTH CONDURROW.

SIR,—If "C. W." had given his name to his letter the public, who he wishes to enlighten on the above subject, could have judged for themselves as to the purely disinterested motives he had in putting us all right as to the continued exaggerated and puffing statements he says are constantly made of the mine. This he seems disinclined to do, although Capt. Rich always does so. The question naturally arises—Who is "C.W.," and are his motives quite as simple and pure as he would have us believe? I have attentively read both his letters, and I doubt it. He may be a great authority on mining matters as he would have us believe. He not only knows perfectly well the underlie of South Condurrow lode, but seems likewise to know much more of the mine itself than the present manager, and perhaps has had more to do with it; but, with all this, nager, and perhaps has had more to do with it; but, with all this, he may also understand a little of undermining likewise. Be that as it may, Captain Rich and South Condurrow are quite capable of taking care of themselves, and I am quite certain those mostly in-terested neither require nor desire his gratuitous information. One word as to myself, and I have done with "C. W.," unless for the future he appends his name to any remarks he may see fit to make. He says my arguments are intended to cast suspicion and abuse, and beneath his reply. I assure him to abuse is the last of my inten-tions; but when a man comes forward under the cloak of giving public information on a matter that does not concern him, re flecting on a man's character, depreciating his property, and afterwards screening himself behind an anonymous signature, I say it looks not only very suspicious, but at the same time W. LEACH.

#### WHEAL GRENVILLE MINE.

The following should be sufficient to contradict the statement contained in a communication inserted in last week's Journal as to the

falling off in value of the Great Flat Lode in depth:—
WHEAL GRENVILLE.—Extracts from reports presented to general
meetings, signed by the agents, Capts. Edwin Hosking and Wm.

Bennetts:—

1873.

Sept 29.—New (or western) shaft sunk to 150 fm. level, and South Condurrow lode cut. We are now cutting through the lode, which we find similario the large of the level above, but producing more tin and richer stones than we had at the same distance in that level. We still believe that when the South Condurrow lode is properly developed you will have a good and lasting property.

Dec. 29.—Since last meeting we have cut through the South Condurrow lode at the 150, and have opened on its course 15 ft.; it is a fine-looking lode, 277 f6\* and worth for the part carrying, 8 ft., 40% per fathom. We are rising in back of the 150, and as soon as the water is sufficiently drained from the 140 we intend to sink at this level towards the rise. The lode in the rise is worth 35% per fathom.

1874. At the 130 fm. level there is a good lode east and west, worth fully 20%. March 25. per fathom. The rise above the 150 is up 5 fms.; lode worth 20% per £73 10\* Tathom. The 140 is driven east 17 fathoms; lode worth 15% per fm, July 14. New shaft sunk 5 fms. below the 150; lode 2½ ft. wide, producing asving work for tin. In the last few feet sinking the lode does not underlie sor spidly, which we consider a favourable feature. Lode in 150 east is worth 25%, per fathom. Winze sinking below the 150, to communicate with rise, is worth 15% per fathom. We have about 3 fms. to sink, and rise to hole.

Oct. 7. We have cut the south side of the lode at the 160 cross-cut, which, as far as seen, is beyond our expectations. We should here remark that by conti uing to sink the New shaft about 2 fms. more we shall be quite in the junction, and, judging from present prospects, we have no doubt we shall have a good lode.

257 5\* Capt Rowe reports at same meeting:—As furas yet seen at the different points at which it has we good lode in the adjoining mine, South Condurrow, and other neighbouring mines.

A tote sent out with the accounts of this meeting states—A telegrant the loge of the lode of the lode of the lode of the lode of

mines.

A note sent out with the accounts of this meeting states—A telegran received since the meeting stating that the south wall of the lode a the 160 fm, level so far as seen is worth 18l, per cubic fathom. When the lode was first intersected at the 140 and 150 fm, levels it was not

Dec 29. The 190 cross cut has been driven north 6 fms. 1 ft. 6 in. The last 5 fms. driven has been in the lode, which is of a most promising character, 259 2 68 and worth 354, per fathom. We shall now put a pare of men to open on it. The 150 east is worth 254, per fathom. The 150 west is worth 154, per fathom.

1875. The 140 east is worth 104.

Mar. 24. The new shalf is sunk 8 ft. below the 160. At this point we are in the junction, and so far as seen the lode is equal to our expectations, and worth 304, per fathom.

April 7. Lode in new shalf is sinking below the 180 is looking well, and we hope in course of a day or two to report further improvement.

April 10. Lode in new shalf is sinking below the 180 is improving, now worth 354. per fathom. Unce 17. We are giad to say we are making better progress in sinking thenew 480 7 68 shuft below the 160, where the lode is worth 354, per fathom. We have a fine lode in the 160 cast, worth 254. cut has been driven north 6 fms. 1 ft. 6 in. The last 5 fms

have a fine lode in the 160 cast, worth 254.

June 29. Lode in new shaft sinking below the 180 fm. level worth 354. per fm.

July 7. New shaft is sunk 3 fms. helow the 180 in the junction of the lodes,
which so far has been difficult of sinking, in consequence of its having
drained all the upper levels, and thereby causing all the water to come

£52 2 5\*
to the bottom of the shaft. We expect in sinking 2 fms. to reach the
north wall of the lode, when we shall fix a lift, which will enable us
to take up the water and sink with greater speed.

The City Articles of the Mining Journal say:—

1874. Wheal Grenville, 4½, 4½. The cross cut in the 160 north is being pushed Oct. 3.

Corward with all possible dispatch. The stope above the 150, on South Condurrow lode, is worth 15t. per fathom.

Oct. 10. Wheal Grenville shares have advanced to 5½, 6. At the meeting, held on Thursday, the accounts showed a balance of liabilities over assets of 2057t. 17s. 10d. A call of 5s. per share was made. A special report of Capt. Rowe, after entering into details of a very favourable nature, adds that there is every reason for believing that the celebrated Great Flat Lode of the district will be found equally as productive at Wheal Grenville as it has proved in South Condurrow and other neighbouring mines. In the 150 the lode is worth 20t. to 25t. per fathom: in the 140 it has been extended upon 20 fms., worth 20t. per fathom. In the 180 a cross-cut is nearing it; and in the 160 since the meeting it has been announced by telegram the lode has been cut into, worth as far as seen 16t. per cubic fathom.

Oct. 24. Wheal Grenville. Lode just cut into the 160 fathom level has improved to 30t. per fm., and looks better than when cut at any other part.

report and accounts.

The bottom of the shaft has not been seen since this date; at all events, not re-\* Price realised for best parcels of tin.

ported upon by any agent, as the water could not be got out. the foregoing that if the had maintained its price in July, 1875, 1873, the lode in the shaft would have been at least of 50. alue than reported.

## WYE VALLEY MINE, AND MECHANICAL BORERS,

WYE VALLET SIR,—In answer to an "Old Drill" in the Journal of Oct. 13, Sire,—In answer to an "Old Drill" in the Journal of Oct. 13, a me to say that I consider the failure principally in the autom feed, especially in the Cambrian rock, where you are contine meeting with seams of quartz, the drill is constantly sticking and the drill points breaking, whereas if the hand-feed with the blow struck what he is going into, and so regulate the object of the principal of the seam of the s An Observ

#### GLENROY MINE.

SIR,-I quite unintentionally omitted to state in my last SIR.—I quite unintentionally omitted to state in my last le that the discovery at the above mine, which excited so much a tion, was made a considerable time before the date of my fire spection. It is only fair to state that the lode had sometimes of the productive for lead, as was evident from the fine specim at surface; but, as my instructions were to value the lode in my calculations had no reference to that, excepting in giving general estimate of the quantities of lead and blende lying or washings.—Rushen Mine, Oct. 22.

J. BARKET

## NEW BROOK WOOD COPPER MINE, BUCKFASTLEIG

NEW BROOK WOOD COPPER MINE, BUCKFASTLEIGH SIR,—Four of us obtained the legal right of working the min in the two estates of Mr. Jacob Rowland, joining east of Brook work the machinery to sink New Brook Wood as deep as 100.

After receiving the privilege we set to work by driving dits sinking costean shafts, where we found copper in all our trials. We are a lode, which is 4 ft. big, producing rocks of copper and lour trials. We are a lode, which is 4 ft. big, producing rocks of copper and lour trials. We are a low water level the hill rises 400 ft., so that a grant deal of copper will be to sists of the hill above spoken of, rises direct northin of this valuable rise sists of the hill above spoken of, rises direct northin and this valuable rise between the set. We have the right of placing the mine into the hands of a business and share broker—Mr. Do Mann, of Torquay—where the legal right of and prospectuses can be had, with several practical agents' reports. The side of the process of the set. We have the right of placing the mine into the hands of a business and share broker—Mr. D. Mann, of Torquay—where the legal right of and prospectuses can be had, with several practical agents' reports. The sideres from the above saying that he has received a number of deposite parallel for the produce a similar quantity of copper as Wheal Emman allows the which has been 200,000%, above the 100 fm. level. It is believed by those that the mines that they ought not to have been divided, the richness of the land during copper being such that miners took tribute at 2a, in 11. During the St. Robins was agent of fire ok Wood copper was sold as high as 22, 24, 64 in the ten years the Liskeard Company had Brook Wood they rised as leigh Railway being near all adds to the welfare of the undertaking. Oct. 25.

#### Meetings of Bublic Companies.

#### THE PROVIDENCIA AND NEW ROSARIO SILVER MIN COMPANY.

The ordinary meeting of shareholders was held at the offices

The ordinary meeting of shareholders was held at the offic company, Coleman-street, on Oct. 19,

Mr. JAMES GOODSON in the chair.

Mr. M. HEARN (the secretary) read the notice convermenting. The directors' report and accounts were taken as In presenting their report for the second ordinary general meeting, would congratulate the shareholders on the success which has thus for the operations at the Providencia Mine. The manager's report, which we issued to the shareholders, shows that a considerable quantity of oregonable for extraction has been opened up during the past few months, as prospects for the present half-year are equally good. Should these improspects for the present half-year are equally good. Should these improspects for the present half-year are equally good. Should these improspects for the present half-year are equally in the first open that the manager will be able gradually to increase the extraction to conduct the mining and all operations with the greatest economy with efficiency. It is needful, however, that there should be aliberate at the mines at this juncture in order to obtain increased returns of ore, expenditure is likely to be thoroughly reproductive the directors feel threat economy to work the mine with vigour, especially as the fixed on the reby be increased.

truest economy to work the mine with vigour, especially as the fixed cha not thereby be increased.

The raising of ore since the date of the manager's report, June 27, 1 geen as follows:—

For fortnight ending July 18, 1877 ... 70 cargas, worth 10 mes pe 

The CHAIRMAN said the lengthy report from Mr. Camin manager, which was issued to the shareholders in August last The CHAIRMAN said the lengthy report from Mr. Camba, manager, which was issued to the shareholders in August list, wobviate the necessity of his entering into any details as to the sing or condition of their property. It was, he might say, am for congratulation that since the publication of his report Camins had seen no reason to modify the views expressed by therein. The extraction of ore had been going on steadily side Saint Diego winze was completed, and he was glad to be ablet that the returns of ore during the six weeks ending Sept. If date of the last advices received from Mr. Camins) had been raging, and their manager then expected that in a few weeks he would reach a very productive point in one of the lots, would necessarily improve the weekly extraction of ore. The holders should bear in mind that the progress of the work, by regard to development and extraction, was slow, in consequent the very hard nature of the ground; but this fact, although swhat discouraging at the present time, would eventually beam of considerable satisfaction to all interested in the property, for ground generally indicated a durable mine. When once the should be brought into a paying condition they might look for to daily improving results, seeing that they had a very large of orey ground, and that their lodes partook of the character is a true fissure lodes, which he need hardly tell the shareholden the start was trained from the content of the character in the start of the character is a true fissure lodes, which he need hardly tell the shareholden that the property for a mine. It was the character in the content of the ground that their lodes partook of the character is a true fissure lodes, which he need hardly tell the shareholden that the property for a mine. of orey ground, and that their lodes partook of the character as true fissure lodes, which he need hardly tell the sharehold the best and most lasting kind of property for a mine. I matter of regret to the directors that the calls on the sharehold most met with the punctuality that was desirable. It was highest importance that the manager should not be cripple operations, and these could not be pushed forward vigorus manager were not adopted by revided with funds. This was manager were not adequately provided with funds. This was out doubt a most important point, and the directors had some had to put themselves to much personal inconvenience to mish a supporting the support in the supp necessary monthly payments for the purpose of supporting perty; but he hoped those shareholders who were in areas would not allow this burden to remain upon the directors not the duty of the directors to provide the company with except, of course, to the extent of their holdings, but a contact of this payment in the previous undertaking. He hoped however, that as these in the previous undertaking. He hoped however, that as these in the previous undertaking. Hehoped, however, thatas the from the mines continued to be so very encouraging, and latest accounts were much more favourable than any previous that the shaveholders would come forward for w ceived, that the shareholders would come forward, for we continuous flow of money to meet the monthly payments, the mines could be pushed on to the utmost extent, the would not be in a position to would not be in a would not be in a position to pay the shareholders a divide conclusion, the Chairman moved the reception and adoption

Dr. EVELEIGH, in seconding the motion, said, although accounts the expenditure on the haciends for the six mon

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The returns of ore had gradually increased, and there will be a seried out that this gradual increase would continue. The stopes will be severed first, and that would have to be done and are to be secured first, and that would have to be done and water. Referring to Mr. Cumins' report, it would be a five that the price realised for the silver ore had been about the price realised for the silver ore had been about the price realised for the silver ore had been about the price realised for the silver ore had been about the price realised for the silver ore had been about the price realised for the silver ore had been about the price realised for the silver ore had been about the price of the silver ore had been about the price of the silver ore had been about the price of the silver ore had been about the price of the silver ore had been about the price of the company to a great extent due to the fact that the company is so war reduction work was able to keep its own tailings.

In the price of the excellent services of Mr. Cumins, Dr. Eveleigh the fetring to the excellent services of Mr. Cumins, Dr. Eveleigh and the silver will be declared.

In the shareholders would have a dividend, and it was a stream and up the arrears due had been reduced to 3751.

In the shareholders would have a dividend, and it was seen that the shareholders are doing all they possibly be carmans and to 884, on the allotment.

In the price of the solicitor of the company to enforce paying the shareholders are doing all they possibly be carmans and the accounts were unanimously adopted.

In the report and accounts were unanimously adopted.

In the re

### NAY CONSOLS AND GLYN LEAD MINING COMPANIES.

IN CONSOLS AND GLYN LEAD MINING COMPANIES.

In salignmed meeting of shareholders in Van Consols Company wild on Wednesday, at the Guildhall Tavern, Gresham-street, Mr. ADAM MURRAY, F.G.S., in the chair.

In the chair man of the joint committee should have presided over insting; but, as this was an adjourned meeting, it was sugarbly the committee that he should take the chair upon the precedings but, as this was an adjourned meeting, it was sugarbly the committee that he should take the chair upon the precedings by briefly stating since he had last the pleasure of meeting the shareholders he issue he had last the pleasure of meeting the shareholders he issue by both mines, and had spent some time in investigating importies very thoroughly, and in that investigation he had arry ably assisted by Capt. Roach, who, he was happy to say, speent at the meeting. The prospects of the Van Consols Mine intuition had a depth of 94 or 95 fms. from surface, inset valuable lode had been discovered and opened on. This surfan adventitious lode of barytes, such as they had had beal without going into the geological or the mineralogical state of the lode, he might state that at the bottom of the shaft stripts had doubtless been obtained. There was a lode there shofturning out certainly 30,000 tons, and probably 50,000 tons, saff; and he calculated that in the course of six weeks from mening operations he would be returning at least 30 tons of ore time the bottom of the shaft with the first winze, 22 fms. to the timultaneously, and directly the communication was made He would drive from the bottom of the winze and from the He would drive from the bottom of the winze and from the imultaneously, and directly the communication was made imply vould be stoped away from the 15, 25, and 40 fm. levels, see would be carried through the new shaft, which would imaposition to work the mine thoroughly. It would not sible to say what was the value of the ore which it was anti-dwould be raised, but taking a very low estimate they had all by sinking a permanent, well-constructed shaft. Every-two new in the best order, there was an excellent engine, and undinterly remarks he would call upon Cart. Roach to make

whose in the best order, there was an excellent engine, and subject and plant were in perfect condition. With these inductory remarks, he would call upon Capt. Roach to make statement with regard to the Van Consols Mine. Roach said he had paid due attention to what the Chair-laid said about the mine, and the way he had described it, and it consured in the remarks made as to its position and prothe had now a commodious and well-constructed shaft make to a depth of 95 fathoms, and driving had been comkind in one place the lode had been opened on for 14 ft. Michailed a mixture of ore throughout, and would produce well to no for to the fathom, especially in the western levels. obtained a mixture of ore throughout, and would produce to the fathoun, especially in the western levels. It was do not not be fathoun, especially in the western levels. It was the fally believed that if the mine were developed in both directions of ore would be opened out. But independent of these may point at the bottom of the mine, they had, as the Chairman had maderable number of fathours of ore ground standing above them, while been prevented from working hitherto in consequence of the fact than not down sufficiently deep until quite lately. It would take wis to sommunicate the winze with the shaft, and they would them said men to stope the ground, and send it to surface; and, judging send appearances, he believed the future results would be very satisfied when the surface will not presume to say within 500 tons of ore how much stuff, eller, for a better lode was not to be seen than that which was to be betten of Yan Consols Mine. ols Mir

o Consols Mine.

b barytes could be utilised?—Capt. Roach replied that barytes they could produce.

barytes they could produce.

ize of the lode?—Capt. Roach said, so far as the lode it was about 20 ft. wide, and it could be driven for about old now work much chesper than formerly. The engine utilificant power to do all the work likely to be required of ich they had to deal was not worth talking about. They be 40 fm. level which relieved them from nearly all the d not work the engine more than two hours out of the sa collapse of ore in the back of the 40 fm. level, east of had the management of the property he intended to drive, so as to get back to the ore.

Roach should say a few words

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so perhaps would be better that Capt. Roach should say a few words stiys Mine.

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other way.
getting and selling the barytes would interfere with the
—Capt. ROACH replied that it would not.

After a short conversation upon the subject of the barytes, Mr. J. C. BOLTON said the question had been fully discussed by the joint committees, and it was calculated upon statements made by Mr. Minray and Captain Roach that 100%, per month profit could be made on the working of the barytes, and 150%, per month on the mine into a state of a ctive operation, and this would represent a profit of about 3000%, per annum. It was anticipated also that the returns would be largely increased. There was a large quantity of lead ore in view, and the committees were quite satisfied that it was a legitimate undertaking, and one worthy of the support of all connected with the company. (Har, hear.)

Mr. J. J. Wirners (the solicator) said that his duty was simply to remind of all connected with the company. (Har, hear.)

Mr. J. J. Wirners (the solicator) said that his duty was simply for remind upproving of the amalgamation of the Van Consols and 15th Connected with the company. (Har, hear.)

Mr. J. J. Wirners (the solicator) said that his duty was study to remind upproving of the amalgamation of the Van Consols and 15th Connected with the companies were passed. He would first remind the shareholders that the Van Consols Companies were passed. He would first remind the shareholders that the Van Consols Companies were passed. He would first remind the shareholders that the Van Consols Companies were passed. He would first remind the shareholders that the Van Consols and the mine beauty of the Court, the smaller matter of the Court, the smaller was another than the consolitation shareholders and the mine beauty of the Court, the smaller was another was no possibility of doing anything until the mine was sold, or until, with the permission of the Court, the smaller provides the present time of the Court, the smaller provides the consolitation of the Court, or the Court, the smaller provides the consolitation of the Court, the same passed that the mine had been made. If any step were to be taken those who had not sent in their ac

belief that in a year's time, if the scheme were carried into effect, the 10 per cent-preference dividend would be paid, and a payment would also be made on the ordinary shares.

After some further discussion it was suggested that the preference interest should be perpetual and cumulative, and that after the payment of the 10 per cent. preferential dividend, the shares should rank pari pains with the ordinary shares for dividend. With these modifications the resolution was carried unanimously, and the joint secretaries were instructed to prepare and forward to the shareholders another circular stating the effect of the resolution.

The meeting was then adjourned until December 12.
At a formal meeting of the Glyn shareholders, which followed immediately after the termination of the Van Consols meeting, resolutions precisely the same as those passed at Van Consols were adopted.

On the motion of Mr. Priver, seconded by Mr. Ward, a vote of thanks was passed to the Chairman, and the proceedings then terminated.

#### MEDLYN MOOR MINING COMPANY.

A meeting of shareholders was held at the offices of the company, Gresham Buildings, on Tuesday,—Mr. E. HILTON in the chair.
Mr. Granville Sharp (the secretary) read the notice calling the

meeting.

The CHAIRMAN said he should propose that the agent's report be now read previous to submitting the financial statement, as it would now read previous to submitting the financial statement, as it would give an insight into the working and condition of the mine at the present time. He was glad to say the prospects of the mine were quite favourable, carrying out to the fullest extent the anticipations which had been entertained for some time past. What they had to work against now was the very low price of tin, but the reserves had been allowed to increase in the mines rather than work them out, when it was simply an expenditure of money to cover the cost, and the development had been proceeded with, and just before this meeting they had anticipated cutting the lode, which would place the lode, at all events, in a position to be able to pay its costs in all probability, and any improvement in the price of tin would place the mine in a dividend state, so it was to be hoped there was a bright future in the distance, and that not very far.

The Secretary then read the agent's report.

Mr. WILLIAMS asked what was the value of the ore per ton?—Capt. Priske said that in the adjoining mine they last week made 42l. per ton; but even if in this mine they got 40l. per ton it would about clear the cost. Referring to the condition of the foreign tin trade, he went on to say that he had in recent correspondence received the intelligence that the produce of tin in Tasmania was falling off. He had received circulars from smelters asking for tin, and he sold a parcel the other day; the smelters were of opinion that the market was very firm, and if the supply of tin for October was a little less or about the same as for September there would be another substantial rise in the price. He had been offered 1l. or 2l. per standard beyond the last price for the next parcel.

The Secretary then read the financial statement, which showed that the debit balance against the mine was 1376l. 3s. 2l. on Sept. 1. He said the labour cost had now been greatly reduced, the directors

He said the labour cost had now been greatly reduced, the directors considering that was the best policy during the present high price

Mr. WILLIAMS said the smallness of the meeting would seem to Mr. Williams said the smanness of the meeting would seem to indicate that the shareholders did not take much interest in their property.—The Chairman said a large number of shareholders resided in Cornwall, and attended the meetings there, but did not come up to London to attend them.—Mr. Williams said it was satisfactory to see that the largest shareholder was in the chair.

The Structure, if you got the lode in the shaft Cant Prisks

get the lode in the shaft. Capt. The SECRETARY: It you get the lode in the snart, capt. Prisse, anything like approaching your anticipations, and that holds good another 10 fms. down to the 37, and you open upon that lode east and west, and stope up, will the mine pay at the present price of tin? Capt. PRISKE: Certainly.

The SECRETARY went on to point out that they were not, like

most mines, dependent upon one or two lodes, but there were four lodes which could be reached from one shaft, and there were other lodes which could be reached by attaching a line of flat-rods.

Capt. Prisks and that at the time they had decided to suspend

some of the operations tin was selling at 35l. per ton, and it had been sold as low as 33l., and they thought it better to suspend for a time the raising of ore which gave no profit. But now that tin was time the raising of ore which gave no profit. But now that tin was at 422, and if they cut the lode which had been referred to, they would be able to go on at a better rate.

Capt. Priske, in answer to Mr. Williams, said the lode might be

cut at any time.

The CHAIRMAN then moved that the agent's report be received and adopted, and, together with the report of the meeting, be printed and circulated amongst the shareholders.—Mr. WILLIAMS seconded

on the motion of the Chairman, seconded by Mr. Williams, the

financial statement to Sept. 1 last was adopted. A call of 4s. 6d. per hare was then made, payable on Nov. 13.

The meeting then broke up, with a vote of thanks to the Chairman.

#### WHEAL CREBOR MINING COMPANY.

WHEAL CREBOR MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Gracechurch Buildings, on Tuesday,
Mr. J. Y. WATSON, F.G.S., in the chair.

Mr. C. B. PARRY (the secretary) read the notice convening the meeting, and the minutes of the preceding one, which were confirmed. The statement of accounts and reports of the committee and of the agent were then submitted.

The report of the committee stated that the quarterly sale of copper ore had realised \$612., or \$6001. Ses than it would have brought two years ago, and shows a loss of 2391. Is. 3d. In consequence of this and the expenses attencing the new shaft and machinery for it there is a cash balance against the mine of 1721. Ils. 1d., and a cost-sheet for about 2501. has to be met before the ore bill will be in hand. There will also be costs of 5001. to meet before another sale of copper ore takes place, and under these circumstances the committee recommend a call of 2s. per share, payable forthwith. The merchants' bills owing amount to 5581. 2d., and the liabilities over assets 1231. 18s. 11d.

Oct. 22.—1 beg to hand you my report of the above mine for the meeting appointed to be held to-morrow. The lode in the 120 east is 6 ft. wide, worth 121. per fathom. The lode in the 108 east is 21t. wide, yielding some good arsenical mundic and a little copper ore, but not sufficient to value. The lode in the west stope in the back of the 120 east is 6 ft. wide, worth 151. per fathom. The lode in the 108 east is 21t. wide, worth 101. per fathom. The lode in the 22 east is 25t ft. wide, composed principally of quartz, capel, and mundic. In the 48 east we are carrying 3 ft. of the north part of the lode, which will now yield 4 tons of good arsenical mundic per fathom, with good stones of yellow ore intermixed. The lode in this end has been gradually improving for some weeks past, and is looking very encouraging for further improvement. During the past three months we have been engaged casing, dividing, and repairing ladder-road in the eng

beyond what was contained in the reports and accounts. They would observe that but for the low price of metals they would have been in a very satisfactory position, as the three months' working would have shown 2604, profit instead of 2404, loss. They were obtaining some very good mineral from the mine, and all that they required to put them in a more favourable position was a better price for their produce.

Mr. CLIFT suggested that in future they should sample every two months, as it would greatly simplify their financial arrangements, and would not, so far as he could see, occasion any inconvenience at the mine.

at the mine.

Mr. Parry said that if the shareholders desired two monthly samplings there would be no difficulty whatever in carrying out their wish, but he thought that, as a matter of form, it would be preferable if they would pass a resolution directing it to be done.

Mr. CLIFT regretted that, as the question of making a call had to be considered, so few shareholders were present; but as it was impossible to carry on the business of the mine without funds, he would propose that a call of 2s. per share, subject to the usual 5 per cart, discount for prompt payment, be made.

cent, discount for prompt payment, be made.

The resolution was seconded, and the making of the call was unanimously agreed to; and the resolution that in future the samplings be made every two months having been passed, the usual complimentary votes were given, and the meeting separated.

#### MELLANEAR COPPER MINE COMPANY.

The adjourned ordinary general meeting of shareholders was held at the office of the company, Queen-street-place, on Thursday,
Mr. ROBERT HENTY in the chair.
Mr. W. G. WILLIAMS (the secretary) read the notice convening

Mr. W. G. WILLIAMS (the secretary) read the notice convening the meeting.

The CHAIRMAN said the accounts applied to two different periods—one to December 31 and the other to June 30. When they met in March last no accounts had been prepared, and the accounts to Dec. 31 last were the only ones which the shareholders would be asked to adopt to-day. Those up to June 30 had not been audited, and, therefore, they were simply given for the information of the shareholders, but they would not be asked to adopt them till they were audited. The meeting to-day was the adjourned meeting from March 15. The mine had then, as they were informed, been prosperously worked as far as it had gone, but the accounts not being so forward as was desired, the meeting was adjourned to some other date. In future the accounts would be made up to December 31 and June 30. The mine had been, on the whole, extremely successful, and had, perhaps, surpassed the anticipations which had been formed of it. The accounts showed that there had been up to the present date an outlay of 5051L upon working the mine, and 1700L upon the machinery, making together 6754L. There was a considerable amount (over 5000L) of capital in hand at present. All the money had been called up. There had been a small amount of ore taken from the mine in the course of the general working up to Dec. 3, which was carried to the credit of the account, so that there was about 1000L which came in aid of the capital expenditure. The present position of the mine was all that they could desire. carried to the credit of the account, so that there was about 10001, which came in aid of the capital expenditure. The present position of the mine was all that they could desire. There was one stope yielding 8 tons per fathom. The only thing they had to complain of was the low price of copper, but working at the present wretched price there still remained a small profit, and if there was a reaction in the price of copper they might look for a profitable and enduring mine. In conclusion, the Chairman moved the adoption of the report and accounts.—Mr. KINGSFORD seconded the resolution, which was put and carried.

Mr. RICHARD TAYLOR said he visited the mine last week, and with their very excellent agents went into all the points on which

Mr. RICHARD TAYLOR said he visited the mine last week, and with their very excellent agents went into all the points on which he believed the shareholders wou'd desire information, and brought home with him plans and sections. When the company took over the mine it was full of water. The work which had been done at the mine was described very fully in a report which had that morning been received from Capt. Gilbert, which was as follows:—

Oct. 25.—I have much pleasure in sending you some of the results of our operations since the commencement of the mine by the present company. The 30 has been driven west of the skip-saaft 34 fathoms on the course of the lode, and 6 fathoms on the cross-course south; the lode for that distance produced stones of copper ore, but not sufficient to value. The 50 has been driven west of the skip-shaft 43 fms.; 33 fms. of this was through a lode that produced saving work for copper ore, and 3 fms. between the two parts of the cross-course was worth 3 tons of ore per fathom. In the last 19 fms. driving the lode has improved to 3½ tons of ore per fathom.

copper ore, but not sufficient to value. The 50 has been driven west of the skipshaft 48 fms.; 38 fms. of this was through a lode that produced saving work for copper ore, and 3 fms. between the two parts of the cross course was worth 3 tons of ore per fathom. In the last 12 fms. driving the lode has improved to 3½ tons of ore per fathom. The 67 has been driven west of the skip-shaft 60 fms. For 50 fms. of this driving the lode would average fully 5 tons of ore per fathom. The last 10 fms. where we holed to the 70, east of Gundry's, was worth 3 tons of ore per fms. We have also put up three rises in the back of this level, where the lode has been about the same value as it was in driving the end.

The 80 has been driven west of the skip-shaft 23½ fms., and 21½ fms. east of Gundry's. The western drivage was worth 5 tons of ore per fathom, and the eastern drivage was in the country rock to meet the 80, west of the skip-shaft. The 99 has been driven west of skip-shaft 5 fms., through a lode worth about 3½ tons of ore per fathom; the lode varied but little in value for all this distance. The 80 has been driven 22 fms. west of the cross-out, west of Gundry's shaft; the first 4 fathoms produced 3 tons of ore per fathom; the remainder of the distance varied from good stones of ore to 1 ton per fathom. The 70, west of Gundry's shaft, has been driven 14 fathoms; lode worth for nearly all this distance 3½ tons of ore per fathom. The 70, east of Gundry's shaft. The first 12 fathoms was worth 4½ tons of ore per fathom, and the rest of the distance produced about 1 ton of ore per fathom. We have communicated two rises from this level to the 60. The 90, east of the cross-out, east of Gundry's shaft, has been driven 17 fms., and to first was worth 4 tons of ore per fathom, and in the last 4 fms. the lode declined to 2 tons per fathom. The 60 west has been driven 17 fms.; the first 10 fms. was worth 4 tons of ore per fathom, and the rest worth from 1 to 2 tons per fathom. The 60 coss-out, south 7 fms., and the 60 south 12 fms.

modious plat at the 80, and are now cutting top plat at the 90. We have also fixed a 32-fm. plunger lift in place of the two bucket lifts that were worked by the former company, and have placed the shaft and footway in good repair throughout. We have sunk the skip-shaft 5 fms. 4 ft. 3 in. below the 90, but had to suspend it in consequence of an increase of water. At the old engine-shaft we have fixed balance-bob at the 40, changed several defective pumps and clackseatings, and have also strengthened all the joints in the main rods from the top of the shaft to the bottom, and have put a 13-inch plunger at the adit in place of the 10½ inch, to give an increase of water for our dressing operations. At the surface, on the old floors, we have made a large reservoir, fixed portable engine, Coilom's igs, centrifugal pump, two round buddles, alime pits, &c., and made an incline for discharging the stuff from the crusher. At Gundry's new floors we have put in a high tramroad for bringing stuff from the shaft, sizing seveens, jigging hutches, picking tables, and sheds to cover the same. We have also fixed a weighbridge in a very convenient spot for weighing all the coals and stores that are required in the mine. We have 90 men working on tutwork and 30 men on tribute, and 42 men and 80 girls and boys at surface. Total, 242 persons employed.—J. Gilbert.

Mr. TAYLOR went on to say that the large quantity of work done in the mine showed that the ground was extremely favourable, and

a very convenient spot for weighing all the coals and stores that are required in the mine. We have 80 men working on tutwork and 30 men on tributs, and 42 men and 80 girls and boys at surface. Total, 242 persons employed.—J. GLIBERT.

Mr. TATLOR went on to say that the large quantity of work done in the mine showed that the ground was extremely favourable, and with the exception of the 30 fm. level, every level which had been driven had produced ore in paying quantities. So within the first period to which the accounts related, although they were not aiming at getting returns, yet the ore which had been got out in driving the various levels had been a very considerable assistance to the capital account. As to the present prospects, they must bear in mind this fact, that in these levels the course of ore was over 100 fms. in length, without any break. The lode does not produce such large quantities as was represented, but the difference was not so very great. When they came to stope down the ground which was laid open they found generally that the lode was in very many places opening up a much larger size than that which was seen in driving on the level, which was of the ordinary width of 5 ft. In stoping the lode had produced from 5 to 6 tons, and sometimes 7 to 8 tons per fathom. The engine-shaft was sunk by the former proprietors to the depth of 100 fathoms, and considerable levels driven. Everything indicated that the capabilities of the mine for producing large returns were very considerable, and everything was laid open in a way so that the mine could be worked to the greatest advantage. The two shafts would give complete mastery of the water. The old engine was one deserving of all praise, and was now in throrough good repair, and very powerful. But it had had an excess of work, because there was no communication between Gundry's shaft and the eastern portion of the mine. Gundry's shaft was a fine one, the 80-inch engine being as good as new, and the pitwork was at the present immers, and was now in thro

NORTH TRESKERBY.—At the meeting on October 16 the accounts showed a debit balance of 638%. 4s. 9d. A call of 10s. per share was made. Dr. Whitworth was appointed purser, at a salary of 8%. 8s. per month; Capt. John Nancarrow was appointed the manager, at a salary of 5%. 5s. per month; and Capt. Alexander Nancarrow confirmed in his appointment of resident agent, at 6%. 6s. per month.

firmed in his appointment of resident agent, at 6l. 6s. per month.

WHEAL OWLES.—At the meeting, on Oct. 19, the accounts showed a debit balance of 21,614l. 9s. 3d. Work performed during the 16 weeks:—133 fms. 3 ft. 11 in. driven, and 36 fms. 2 ft. sunk in shafts and winzes; 38 pares stoping for tin on tutwork, and 11 pitches working on tribute. Mr. Richard Boyns, the manager, says—" If the Board of Trade Returns respecting the imports of tin for nine months of this year may be taken as a clue to the price we may reasonably expect an advance soon. In the accounts passed to-day, as has been invariably done from the commencement, every item is charged up; and I am glad to say the mine is in good working order."

CATHEDRAL.—A preliminary meeting of the principal share-

charged up; and I am glad to say the mine is in good working order.

CATHEDRAL.—A preliminary meeting of the principal shareholders in the Cathedral Mining Company (Limited), now in liquidation, was by the invitation of Mr. Laby (who had purchased from
the Stannaries Court that company's interest in the lease and plant)
held on Thursday at Mr. Ashmead's office, Cornhill. The object of
the meeting was to discuss as to the formation of a new company to
continue the working of the mine, which had been suspended by the
liquidation. Nearly 6000 out of the 12.392 shares in the old company were represented. After discussion a committee was chosen
to consider the best means for constructing the new company, and pany were represented. After discussion a committee was chosen to consider the best means for constructing the new company, and to report to a future meeting. The prospects of the mine were spoken of as exceedingly good, and it was considered that with the outlay of a small amount of capital expended in sinking the shaft to agreater depth, and erecting an adequate steam-engine for pumping, the mine would become very remunerative.

[For remainder of Meetings, see to-day's Journal.]

#### FOREIGN MINING AND METALLURGY.

Political excitement has rather interfered with the course of the French iron trade, just as it has checked business in the French coal trade. Intending purchasers, or supposed intending purchasers, have maintained an attitude of expectation, and this is, perhaps, the worst of all difficulties which can befal a market which only lives on from day to day. The foundries of the Ardennes and the Haute-Marne are still working pretty well, and as a consequence casting pig has a fairly sustained market. Refining pig has not been held quite so firmly, but still it is in better request than might, perhaps, be anticipated. Working operations are being carried on tolerably well at Paris, but there has been, upon the whole, rather less activity in affairs. Negociations are proceeding with reference to a treaty of commerce between France and Spain. A contract has been let at Rochefort for a small lot of steel rails and accessories required to meet the requirements of the French navy. MM. Schneider and Political excitement has rather interfered with the course of the

let at Rochefort for a small lot of steel rails and accessories required to meet the requirements of the French navy. MM. Schneider and Co., of the Creusot works, obtained the order upon the following terms:—Straight rails, 9t. 4s. per ton; curved rails, 9t. 12s. per ton; and fish-plates, 12t. per ton.

Enquiries as to prices have been received tolerably freely of late in the Belgian iron trade, but these enquiries have not been attended at present with much practical business results. The John Cockerill Company is building 30 iron pontoons for bridges of boats. It is stated also that 95,000 muskets are being made at Liége. Both these orders have been received from the Russian Government, and these orders have been received from the Russian Government, and they are to be executed with the utmost possible dispatch; this last condition is one which does not involve much hardship just at pre-sent to industrials, as a long continued scantiness of orders has left part of their plant and a number of their workpeople more or less idle. Large orders for rails and railway rolling stock appear to be out of the question just now in Belgium; industrials have to content themselves with orders for small lots of 100 tons (and even less) of fish-plates, bolts, and miscellaneous accessories; and even such orders as these are not obtained without a good deal of competition. The Belgian Minister of Public Works has let a contract for 75 tons of iron fish-plates without bolts for ordinary Vignoles for 75 tons of iron fish-plates without bolts for ordinary Vignoles rails, payment to be partly made in old materials. The lowest tender was that of M. Boucqueau, of La Louvière, who offered to supply the fish-plates at 51. 6s. per ton, and to take old rails in exchange at rates ranging from 3t. to 3t. 4s. per ton. A contract for 100 tons of bolts, to be partly paid for in old materials, was tendered for by seven firms, at rates ranging from 11t. 8s. to 11t. 12s. per ton. It may be noted that 1000 tons of old iron Vignoles rails of Belgian manufacture have been taken over from the State lines at 2t. 19s. 5d. per ton. Another lot of 1500 tons of old iron Vignoles rails of English manufacture made 2t. 9s. 10d. per ton.

Transactions in the French coal trade have been a good deal interrupted by the French elections, and the quietness in affairs has

also been increased by the fact that the weather has remained comparatively mild and open. Upon the whole, it may be said that the situation has continued much the same as it was a week since. A good deal of coal has arrived at Paris, especially coal for heating purposes. In the Nord and the Pas-de-Calais household qualities of coal have been in the most request, and an advance is already spoken of as probable. Prices upon the whole remain, however, simply firm; at the most it is only for eventional qualities of that an advance of at the most it is only for exceptional qualities that an advance of 10d. per ton is stipulated for. The Carmaux Mines Company will pay on the 2nd prox. an interim dividend for 1877 at the rate of 11.4s. per share. The Mokta-el-Hadid Magnetic Iron Minerals Company will pay on Nov. 2 an interim dividend for 1877 at the rate of 5 per

cent per annum.

As is usually the case at this period of the year, deliveries of as a usually the case at this period of the year, deriveries of coal are being made more actively in Belgium, as winter supplies are being laid in as well by water as by railway. Trucks are already obtained with some difficulty upon the railways, as the conveyance of beetroot employs a good many. Household coal has been in strong demand, and has been forwarded to some extent to Paris. Orders for coal from the North of France do not also absolutely make default in Belgium; and, upon the whole, there is some return of activity to the trade and stocks are declining. Output return of activity to the trade, and stocks are declining. Quotations do not revive, but they exhibit a certain tendency to firmness. Industrial coal has been in comparatively little demand, and a disinclination is shown to conclude contracts for a long time in adinclination is shown to conclude contracts for a long time in advance. New works for the production of briquettes have been established at Couillet. The La Haye Collieries Company, at Liége, will pay, on Nov. 2, a second dividend for 1876 7 at the rate of 1l. 8s. per share. The Bonne Espérance Colliery Company was worked at a small loss in 1876-7, but the loss was unimportant—only 135l. The Carnières-Sud Colliery Company was worked in 1875-6 at a loss of 6110'; in 1876-7 the aspect of the company's affairs did not improve, a fresh loss of 7145l. having been sustained. In the last two years the company has thus lost about 14 per cent. of its capital. of its capital.

#### Registration of New Companies.

The following joint-stock companies have been duly registered:—MINERA MOUNTAIN LEAD MINING COMPANY (Limited).—Capital 100,000., in 51. shares. To acquire and work the Minera Mountain Mines, better known as the South Miners and Pool Park Mines, at Minera, Denbigh. The subscribers (who take 50 share each) are—Adam Eyton. Lianerchymor, near Holywell, lead smelter; E. Thompson, Plas Avenue, near Mold, colliery proprietor; A. O. Walker, Leadworks, Chester, lead merchant; E. Williams, Elm House, Wrexham; T. J. Boward, Broom House, Didsbury, merchant; A. G. Godolphin, Sweeting-street, Liverpool, stockbroker; G. Coomer, Clarendon Buildings, Liverpool, cotton broker; P. Walker, Wrexham, brewer. The directors are—Messrs. A. O. Walker, P. Walker, E. Thompson, T. J. Bolland, E. Williams, G. Coomer, the qualification being the holding of 50 shares.

LONDON AND PALATINE FIRE INSURANCE COMPANY.—Limited by guarantee to 1004. To insure property of every description against loss by fine. The subscribers are—John Walmsley, Over Darwen, Lancashire: Thomas Harrup, Hulme Hall Mill, Hulme; W. Shipley, Brookfield, Glassop; W. Higginbotham, Ashton-under-Lyue; W. H. Herrington, New Wandsworth; H. Perry, Gravesend; N. Barrow, Kingston-on-Thames. The office of this company will be in Manchester. DIAMOND WOOD PAYING COMPANY (Limited) —Capital 60,0004., in 51. shares. To carry out improvements in the paying of roads, &c. The subscribers (who take one share each) are—M. Anstruther, 83, Oxford-terrace, W.; W. T. Eaymond, 8, Old Jewry; J. W. Chambers, 8, Crawshay road; T. B. Leewing, 10, Coleman-street; J. Bennett, 7, East India-avenue; W. F. Billings, Gibson's Hill, Norwood; F. C. Hennet, 4, Queen Anne's Gate.

MURDOCH'S PATENT (Limited).—Capital 20001., in 101. shares. To work an invention for removing the incrustation from bollers.

Okorgan, 73, Marques-road, Cannohury; W. H. Holman, Hampsted, House, Company (Limited).—Capital 40,0001., in 101. shares. To further the progress of the paying the company of the same. The subscribers (who take

street.

TRANSVAAL AND SOUTH AFRICAN COLONISATION AND TRADING COMPANY (Limited).—Capital 40,00%, in 10% shares. To further the progress of South African The subscribers are—J. G. W. Brook, 10, Cannon atreet. 3; T. L. B. Edg. comb, Claremont-place, Brunswick-square, 1; F. A. Nenner. 6, Belgrave-road, St. John's Wood; W. J. Oliver, 2, Poet's Corner, S. W.; A. J. Xar, 123, Abbey road, St. John's Wood; W. J. Oliver, 2, Poet's Corner, S. W.; A. J. Xar, 123, Abbey road, St. John's Wood; W. Sharp, 150, Abbey-road; B. Lawes, 24, Sackville-street, Westminster.

No. John's Wood; W. Sharp, 199, Abbey-boad; B. Lawes, 24, Sackine-strees, Westminster
BARANGAH OIL REFINING COMPANY (Limited).— Capital 30,0001, in 81.
shares. To purchase lands in an oil producing island, called the Outer Barangah, British Burmah. The subscribers are—G. Adams, Great St. Helens, 50; W. H. Gade, 5, Trinity-square, 60; R. S. Druck, 5, Trinity-square, 20; T. E. D. Flum, Mansion House Buildings, 10; C. M. Pietsticker, Sydney-terrace, Kilbura: A. Smith, 241, New North road, 1; G. A. Rocks, 11, King-street, E. C., 5.
METROPOLITAN DISTRICT ESTATES COMPANY (Limited).— Capital 25,0001., in 10. shares. This is a land and tuilding company. The subscribers are—W. H. Herrington, New Wandsworth, 10; N. Barrow, Kingston, 1; T. E. Rickard, Winchester-road, Brondesbury, 1; J. Tatlock, 4, Paper Buildings, Temple, 1; W. A. F. Armstrong, 2, Redoliffe Villas, Redoliffe-road, 1; H. Percy, Field Lodge, Gravesend, 1; James Beal, 20, Regent street, 10.

#### THE SCOTCH MINING SHARE MARKET-WEEKLY REPORT AND LIST OF PRICES.

AND LIST OF PRICES.

During the past week the market has been quiet but firm. The cheerful feeling now observable in the reports from the principal trade centres, both at home and particularly in the United Statesmay for obvious reasons take some time to react on the share markets in encouraging extensive transactions, accompanied by a rise in prices, but that it must do so, and that, consequently, the time has passed when investors need wait on any reduction in prices, are facts of which there can reasonably be no doubt. In shares of iron and coal concerns the principal movement for the week is in Cairntable, which are fin demand at 15s. advance, owing to the discovery referred to below. Bolckow, Vaughan, A. are also 3s. higher, while Nanty-Glo and Blaina (pref.) are reduced 15s., Ebbw Vale 1s. 64. Marbella 6s., Monkiand 3s., and by the classes of Giasgow Port Washington each 2s. 6d. Benhars are still freely offered. The Soctish-Australian Company's sales of coal from Aug. 1 to Aug. 29 were 12,000 tons. Andrew Knowles and Sons are at 59s. prem.; ditto (25f. paid), 39s. premium. Antrum, A. 42s. 6d.; ditto B. 40s. Bilbao, 22. Bolckow Vaughan, A. 69s. to 70s. prem.; ditto B. 34 to 34%. Chillington, 70s. to 80s. Darlington, 11% dis. Nanty-Glo and Blaina (def.), 20%. North of England, 39s. to 4se. Pelsall, 11% dis. Silkstone and Dodworth, 20 dis. Skerne, 5%. Staveley, C. 85. Tredegar, A. Il dis. Ulverston, 6 dis. Workington, 15%. West Cumberland, 8. In shares of foreign copper concerns Canadian is 2s. lower, and Tharsis is, 3d., while Huntington is in better request at a small advance of 3d. (28s. 6d. to 30s.) Tharsis will be quoted ex div. on Saturday first. Hultafall are at 5%. New Quebrada, 40s. Panulcillo, 32s. 6d. to 37s. 6d. Rio Tinto Five per Cent. 68%. Yorke Peninula (ordinary) 4s. to 6s., ditto (preference) 17s. 6d. In shares of home mines, Glogow Caradon (old) shares are 1s. lower, and both classes of shares now stand at par, for the first time for many years. The company's sale of 2°5 tons of copper ore

Bampfylde are at 6s. Berehaven, 7s. 6d. Carn Brea, 3s. Combus bighshire Consols, 3ls. 6d. Dolocath, 35. Gienroy, 17s. 6d. Great West Van, 3s. 9d. Gunnislake (Clitters), 25s. 6d. Great Kest Van, 3s. 9d. Gunnislake (Clitters), 25s. 6d. Great Kest Van, 3s. 9d. Gunnislake (Clitters), 25s. 6d. Great Keilifreth, 3s. 9d. Leachills. 4% to 34s. Liangan, 3s. Rillslee Mining Company of Ireland, 97s. 6d. North Laxey, 12s. 6d. Frei Rookhope, 21s. 3d. South Condurrow, 83s. taxey, 12s. 6d. Frei Rookhope, 21s. 3d. South Condurrow, 83s. taxey, 12s. 6d. Frei Rookhope, 21s. 3d. South Condurrow, 83s. taxey, 12s. 6d. Frei Rookhope, 21s. 3d. South Condurrow, 83s. taxey, 12s. 6d. Frei Rounisland, 12s. 6d.; Birdseye Creek, 10s. Cedar Creek, 10s. Minga Emma, 1s. 3d.; Exchequer, 5s. to 7s.; Flagsfaff, 42s. 6d.; Frei Roman, 1s. 3d.; Exchequer, 5s. to 7s.; Flagsfaff, 42s. 6d.; Frei Roman, 1s. 3d. ch. Rookhop, 2s. 6d.; Pestarena, 4s.; Sanfarf, 42s. 6d.; Frei Rookhop, 2s. 6d. Frei Rookhop, 2s. 6d. Frei Rookhop, 1s. 3d. on Young's Paraffin, and a reduction of 2s. 6d. morement 1s. 3d. on Young's Paraffin, and a reduction of 2s. 6d. morement 1s. 3d. on Young's Paraffin, and a reduction of 2s. 6d. morement 1s. 3d. on Young's Paraffin, and a reduction of 2s. 6d. morement 1s. 3d. on Hospho-Gunno (10s. to 10s.) and Bouland, 1s. 3d. on Phospho-Gunno (10s. to 10s.; Earles Ship, 2s. doi: 1s. 3d. on Phospho-Gunno (10s. to 10s.; Earles Ship, 2s. doi: 1s. 3d. on Phospho-Gunno (10s. to 10s.; Earles Ship, 2s. doi: 1s. 3d. on Phospho-Gunno (10s. to 10s.; Earles Ship, 2s. doi: 2s. 3d. : Phosphate Sewage, 5s. to 10s., and Souths Wagon, 11 did in inside de united the Grand Consolt 1st. New done at 11s. 4s. Chemical, 7s. Miner's Safe, 7s. New done at 11s. 4s. Chemical, 7s. Miner's Safe, 7s. New done at 11s. 4s. Chemical, 7s. Miner's Safe, 7s. New done at 11s. Auxe's Chemical, 7s. Miner's Safe, 7s. New done at 11s. Auxe's Chemical, 7s. Miner's Safe, 7s. New done at 11s. Auxe's Chemical, 7s. Miner's Safe, 7s. New done at 11s. Auxe's Chemical, 7s. Miner's Safe, 7

site, 3d.; Phosphate Sewage, 5s. to 10s., and Soutish Wagen, 1½; Newcaste of done at 11½, however.

CAIRNTABLE GAS COAL COMPANY (Limited).—Owing diminished supply of the valuable Torbanehill mineral, we shortly referred to about a couple of months since, of new field of it by this company on their lands in the parish we shortly referred to about a couple of made an analysis of the parish of the couple of the couple of the parish of the couple of the couple of the parish of the couple of the consuming 35 cubic feet; illuminating power, in atandard sperm candles to consuming 35 cubic feet; product at 8 inch pressure, calculated to 8 cm one cubic foot of gas by 5 inch flame, 78 min, 16 sec.; gravity of the couple of the cou

only 16% per cent of ash."

YORKE PENINSULA MINING COMPANY (Limited).—Accord the report this month from this company's properties, the provalued at 3085%, net, while the ore on hand is estimated at net. If the mine continues to improve as it has done, and thought too dear at 50s, each, in place of only being occasionally in for weeks, as at present, somewhere the content of the second occasions.

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,	10	***	10				10	Cairntable Gas Coal (Limited)
:	10	***	10		nil	***	-	Chillington Iron (Limited)
. 1	32		29	***	nil	***	nil	Ebbw Vale Steel, Iron, and Coal (Lim.)
	10	***	6	***	mil		nil	Fife Coal (Limited)
8	10	***	10	***	nil	***	nil	Glasgow Port Washington Iron & Coal(L)
	10	***	10	***	-	***	-	Ditto Prepaid Coal(L)
,	10	***	10	***	-	***	-	Ditto Prepaid
,	10	***	10		nil	***	3	Marbella Iron Ore (Limited)
,	10		10	***	nil	***	nil	Monkland Iron and Coal (Limited)
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-	25s.		28a.		_	***	-	Kapunda Mining (Timited)
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,	10	***		***	6	***	16	Panulcillo Copper (Limited)
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	100	***	100	***	5	***	5	
l.	10	***	10	***	nil	***	nil	
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1	***	1 .		* ***	Yorke Peninsula Mining (Limited)
1	***	1 .			Ditto, 15 per cent. Guaranteed Prel
					GOLD, SILVER.
1	***	1 .			Australian Mines Investment (Limited).
5	***	5 .	7s.	64]7	Australian Mines Investment (Limited).
					OIL.
10	***	7 .		6	6Dalmeny Oil (Limited)
1	***		***	734	
1	***	5s			
10		10 .		214	71/2 Uphall Mineral Oil (Limited) "A"
10	***	10 .			
10	***	10 .			
10	***	816.		9	171/2 Young's Paraffin Light & Mineral Oil(L).
					MISCELLANEOUS.
50	***	25 .	**	δ	6 London and Glasgow Engineering & Iros Shipbuilding (Limited)
20		1436.			Peruvian Nitrate (Limited)
7		7 .			10† Phospho Guano (Limited)
		9.0	-	de	0 0 01 1 1 11 11 11 11 11 11 11

J. GRANT MACLEAN, Stock and Share Post Office Buildings, Stirling, Oct. 25.

ANOTHER CURE OF INFLAMMATION OF THE THROAT 5. (this week).—Mr. Heron, 10, Arthur-street, Belfast, writes—"Octob. 7. Locock's Pulmonic Wafers allayed the inflammation of my three 10 cough, and gave me case at once." They taste pleasantly. Fries is 10. per box.

2s. 9d. per box.
HOLLOWAY'S PILLS.—These celebrated pills are essentially us the blood, cleansing the stomach, gently stimulating the kidney mild aperients. A few does of this purifying medicine set right, remove all billions symptoms, steady the circulation, given muscles and composure to the brain and nerves. The pills are strey may be taken by persons in the most delicate state of health

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"THE DOWLAIS IRON COMPANY (LIMITED), South Wales.

"THE EBBW VALE STEEL, IRON, AND COAL COMPANY (LIMITED), South Wales.

"THE CRUMLIN VIADUCT WORKS COMPANY (LIMITED), South Wales.

"T. J. WALLER, Esq., Railway Contractor, Gisburn, near Skipton.

"TURNER AND SON, Limestone Quarries, Kiverton Park, near Sheffield.

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MESSR

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29, FEN(

CIDEN MILWAY P DEST AND

£1,1 n in case o ny be secur

AWARDED THE PRIZE MEDALS AT LEEDS, MANCHESTER, AND WREXHAM EXHIBITIONS, 1875 AND 1876.

### HADFIELD'S STEEL FOUNDRY COMPANY,

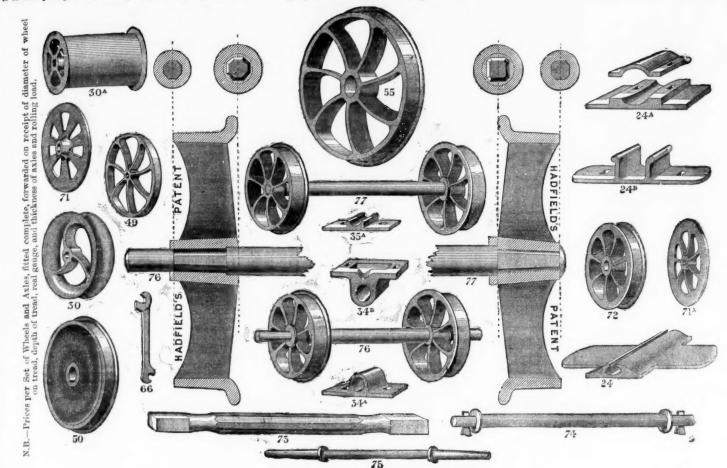
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one of our departments is specially adapted for the manufacture of these Wheels (as shown below), for Collieries, Ironstone Mines, State Quarries, Ironworks, Lead Mines, &c., &c. We have at a now making, many HUNDRED THOUSANDS; and having Patented a New Method of Fitting Wheels upon axles, being cheap, effective, and expeditious, we can execute orders maked to us with promptitude, our capacity in this department alone being equal to about 2000 wheels per week.



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distinct the Arms of wheels upon the curved principle (as shown in the drawings above), consequently the shrinkage or cooling of the Castings is not interfered with, thus securing 3 material.

st advantages of our very strong material.

BLE CAST-STEEL WHEELS, when cast by us, are made from one-third to one-half lighter than Cast-Iron. They cannot be broken while working, even with rough usage, and will east twelve times as long as Cast-Iron, thus saving animal and steam power, and reducing wear and tear immensely.

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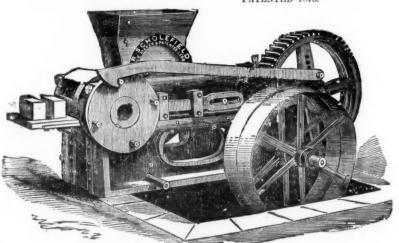
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## R. SCHOLEFIELD'S PATENT BRICK-MAKING MACHINE.



R.S. begs to call the attention of all Colliery Owners in particular to his PATENT SEMI-DRY BRICK MACHINE, and the economical method of making bricks by his patent machinery from the refuse that is taken from the pits during the process of coal-getting, which, instead of storing at the pit's mouth (and making acres of vuluable land use-'ess), is at once made into bricks at a very small cost, by R. S.'s Patent Brick-making Machinery. If the material is got from the pit hill, the following is about the cost of

production, and the hands required to make 10,000 pressed bricks per day:-

g and digging, each 4s. per day

1 man grinding, 4s. 6d. per day

1 by taking off bricks from machine, and placing them in barrow ready for the kiln, 2s. per day

1 by taking, 1s. 6d. per day

1 rigine-man, 5s. per day

1 man wheeling bricks from machine to kiln, 4s. per day

Total cost of making 10,000 pressed bricks ... ... ... ... ... ... ... ... £1 5 0, or 2s. 6d. per 1000.

(SETTING AND BURNING SAME PRICE AS HAND-MADE BRICKS.)

N.B.—Where the material can be used as it comes from the pit, the cost will be reduced in digging.

As the above Machinery is particularly adapted for the using up of shale, bind, &c., it will be to the advantage of all Colliery Owners to adopt the use of the said Brick-making Machinery. THE MACHINES CAN BE SEEN IN OPERATION AT THE WORKS OF THE SOLE MAKER AND PATENTEE DAILY.

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ining (Lim. Limited) .... aranteed Pre

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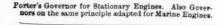
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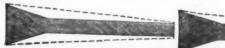
LEAD AND COPPER MINES.

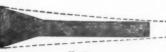
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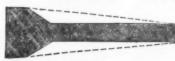
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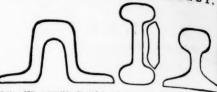
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TIONAL EXHIBITION," in Dublin, 1865; at the "UNIVERSAL IN

TION," in Parls, 1867; at the "GREAT INDUSTRIAL EXHIBITION,"
tona, in 1869; TWO MEDALS at the "UNIVERSAL EXHIBITION,"
in 1573; and at the "EXPOSICION NACIONAL ARGENTINA," of
South America, 1872.



BICK FORD, SMITH AND OF TUCKINGMILL, CORNWALL; ADI BANK CHAMBERS, SOUTH JOHN-STREET, IN POOL; and 85, GRACECHURCH-STREET, IN POOL; and 85, GRACECHURCH-STREET, IN POOL; and 85, GRACECHURCH-STREET, IN PATE IN TEES of SAFETY-FUSE, having be formed that the name of their firm has been amended to the following amountered to the trade and public to the following amountered that the name of their firm has been are fuse not of their manufacture, beg to call the attent that and public to the following amountered that the name of their firm has been are fuse and public to the following amountered that the name of their firm has been are fuse and public to the following amountered that the name of their firm has been are fuse of the fuse o

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BOSKEAR, CAMBORNE, CORNWALL. BLASTING FUSE FOR MINING AND ENGINEE

PURPOSES. Suitable for wet or dry ground, and effective in fropical or Poler Clin

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Bize 40 by 56 inches, scale 8 miles to the inch. Handsomely eight
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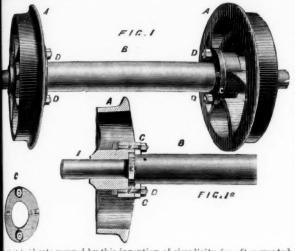
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Patent Method of Fitting up Cast Steel Wheels and Axles.

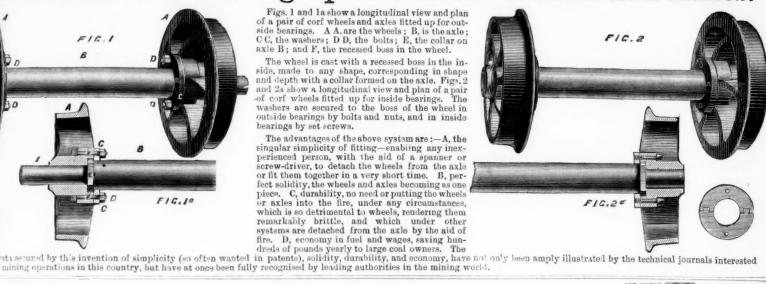


Figs. 1 and 1a show a longitudinal view and plan of a pair of corf wheels and axles fitted up for outside bearings. A A, are the wheels; B, is the axle; C C, the washers; D D, the bolts; E, the collar on axle B; and F, the recessed boss in the wheel.

axie B; and F, the recessed boss in the wheel.

The wheel is cast with a recessed boss in the inside, made to any shape, corresponding in shape and depth with a collar formed on the axie. Figs. 2 and 2a show a longitudinal view and plan of a pair of corf wheels fitted up for inside bearings. The washers are secured to the boss of the wheel in outside bearings by bolts and nuts, and in inside bearings by set screws.

The advantages of the above system are :- A, the





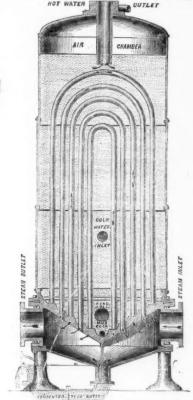
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me pump or injector is required, and as the Heater is placed between the pump and the boiler, the water is forced, COLD, into it, and passes out at the top hor into the boiler direct. Where make the sufficient no pump or injector is needed.

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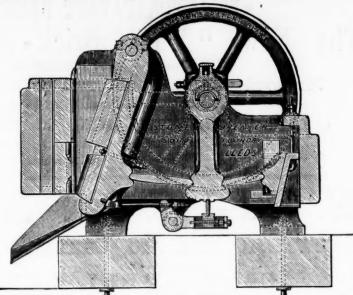
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